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ABSTRACT

Acquisition and maintenance of instructional equipment by colleges and universities in New York State, problems encountered, and possible solutions were assessed through a fall 1986 survey of public and private colleges. The study population consisted of colleges offering scientific and technical instruction in 1985-1986. Responses were received for 134 main campuses and 28 branch campuses, representing 85% of State University campuses surveyed, 94% of City University campuses; and 59% of private sector campuses. It was found that 90% of these New York colleges and universities reported that inadequate funding for the acquisition of new or replacement instructional equipment had a negative effect on their instructional programs. About 90% of public sector campuses responding to the survey, and about 60% of responding private colleges, reported that instructional equipment maintenance needs were a problem. Over half the respondents felt that maintenance funds should be built into acquisition grant programs. Included are respondents' recommendations for action by the state. Appendices include the questionnaire, technical information on the study, and summary forms. (SW)

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HIGH-PRIORITY EQUIPMENT NEEDS FOR INSTRUCTION AT POSTSECONDARY INSTITUTIONS IN NEW YORK STATE

A Report

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THE STATE EDUCATION DEPARTMENT
Office of Postsecondary Policy Analysis
Albany, New York 12230

THE STATE EDUCATION DEPARTMENT / THE UNIVERSITY OF THE STATE OF NEW YORK / ALBANY, N.Y. 12230

DEPUTY COMMISSIONER FOR HIGHER AND PROFESSIONAL EDUCATION

**MEMORANDUM TO CHIEF EXECUTIVE OFFICERS
OF INSTITUTIONS OF POSTSECONDARY EDUCATION
IN NEW YORK STATE
AND OTHER INTERESTED PARTIES**

#87-13

July 17, 1987

Subject: Report on High-Priority Equipment Needs for Instruction at Postsecondary Institutions in New York State

Enclosed is a copy of the State Education Department's report on High-Priority Equipment Needs for Instruction at Postsecondary Institutions in New York State. It is based on the results of a fall 1986 survey of public and independent colleges and on other information. This report sets forth the extent of the problem in acquisition and maintenance of instructional equipment by colleges and universities, the nature and dimensions of that problem, and the approaches suggested by institutions to address the problem. It does not make recommendations.

Sincerely,

Donald J. Nolan

cc: Heads of branch campuses

HIGH-PRIORITY EQUIPMENT NEEDS FOR INSTRUCTION AT POSTSECONDARY INSTITUTIONS IN NEW YORK STATE

A Report

The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Office of Postsecondary Policy Analysis
Albany, New York 12230
July 1987

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FOREWORD

Each year in the 1980's, New York's colleges and universities have enrolled almost one million students and granted nearly 180,000 degrees, from associate degrees through doctorates. About 30 percent of these degrees are in the sciences, mathematics, engineering, and technology; in addition, students enrolled in most degree programs take one or more science or mathematics courses as electives or program requirements. Furthermore, colleges and universities are among those institutions in our society that are most affected by the rapid pace of change in technology and telecommunications. If they are to do their job of education and research well, they must keep up with those changes.

Yet there are disturbing indications that our colleges and universities are finding it difficult to keep up. Equipment needs for instruction are growing more sophisticated, and more costly; rapid change means rapid obsolescence. Responding to signals in the budget requests of the City University and State University and responses to a 1982 survey of engineering schools by the Education Department, The Regents 1984 Statewide Plan for the Development of Postsecondary Education in New York State called for a more comprehensive survey of institutions' equipment needs. That survey has now been completed. It has revealed that inadequate funding for the acquisition of new or replacement instructional equipment has had a negative effect on instructional programs among public and independent institutions alike, and that funding for instructional equipment maintenance also presents a problem for many institutions.

This report presents information available from a number of sources, particularly the Department's 1986 survey. I am indebted to Dr. Celia B. Diamond, of the Department's Bureau of Postsecondary Planning, for its preparation.

Donald J. Nolan
Deputy Commissioner for Higher and
Professional Education

MAJOR CONCLUSIONS

1. Ninety percent of New York colleges and universities responding to a 1986 survey reported that inadequate funding for the acquisition of new or replacement instructional equipment had a negative effect on their instructional programs. About half of the responding campuses said their problems in acquiring equipment to support scientific and technical programs had lasted for more than five years.

Inability to update some curricula or courses was the consequence most frequently cited by both public- and independent-sector campuses. A large majority reported inconvenient schedules for use of equipment, student dissatisfaction, inability to add new programs of instruction, weakened support for remedial/developmental programs, and limitations on enrollment in some programs as effects of problems in acquiring needed instructional equipment. Substantial proportions reported difficulty in either attracting or keeping faculty.

2. Funding for maintenance of instructional equipment also presents a substantial problem for colleges and universities in New York State. About 90 percent of public-sector campuses responding to the survey, and about 60 percent of responding independent college campuses, reported that instructional equipment maintenance needs were a problem. Over half the respondents said they would recommend that maintenance funds be built into acquisition grant programs. Proposals developed to assist postsecondary institutions in meeting instructional equipment needs should make explicit provision for equipment maintenance.

3. Total funds available to all departments except the library for instructional equipment acquisition and maintenance in 1985-86 amounted to $150 or less per full-time equivalent student at three-quarters of the campuses able to provide data. At nearly 60 percent, the amount was $100 or less; at one-quarter, it was $50 or less per FTE.

4. At more than 70 percent of the colleges and universities that were able to provide figures, funding available in 1985-86 for equipment to support instruction in their highest-priority scientific and technical areas fell short of the amounts identified in their 1985-86 budget development process for these areas' instructional equipment needs. This difference between equipment budget requests and funds available for instructional equipment in 1985-86 is characterized in this report as "unmet need." For these respondents, the total "unmet need" calculated for scientific and technical areas alone amounted to about $40 million in 1985-86 ($10 million for campuses of State University, $5 million for campuses of the City University, and $25 million for independent college campuses).

5. When asked to select from a list of possible recommendations for actions which State government might take to respond to instructional equipment needs, the responding campuses most frequently made the following recommendations:

- Establish substantial grant program(s) for acquisition of instructional equipment by public and independent postsecondary institutions.
- Increase the budget allocations for instructional equipment at public institutions to more closely match institutional requests.
- Establish a dedicated revenue stream via more pooled bonding issues like the 1985 Educational Equipment and Short-Term Capital Projects bonds issued by the State Dormitory Authority.
- Build maintenance funds into acquisition grant programs.

THE PROJECT

Purpose and Design

This project arose out of an action in The Regents Statewide Plan for the Development of Postsecondary Education in New York State, 1984:

> In recognition of the Governor's efforts to assist institutions with the purchase of equipment, during the period of this Plan, the Regents and the Department will:
>
> 9-a. Survey the needs for teaching and research equipment, especially computer aided equipment, of a representative sample of postsecondary institutions. The results of this survey will be reported to the Governor and the Legislature with an indication of the fiscal implications of the findings and suggestions for action.

It became apparent in early discussions of the project that a single survey with so broad a purpose would be unwieldy both in response and in analysis and would lack the focus necessary to draw practical conclusions. A number of considerations led to the decision to focus on instructional equipment, among them the recent actions at both the State and Federal levels to fund college and university research and the attention drawn by several national studies to the quality of collegiate instruction.[1]

The need to focus the project led further to concentration on equipment to support scientific and technical instruction, broadly construed,[2] and equipment for "general academic support"—i.e., such instructional resources (excluding the library) as language laboratories, computers and computer-aided equipment to support instruction in more than one discipline, and audiovisual equipment. This decision was made for two reasons. First, such equipment is expensive and, given the necessity of demonstration and laboratory experience in the sciences, was judged likely to consume a major portion of a college's instructional equipment budget. (In fact, when the survey was administered, the respondents reported allocating nearly 80 percent of their total instructional equipment budgets to scientific/technical/general areas.) Second, improving the entire population's grounding in science, as well as that of future scientists, has been a matter of concern in the 1980's in both New York State and the nation.

The objectives used in developing the survey instrument were:

(1) To ascertain the colleges' views on whether acquiring and maintaining instructional equipment presented a problem for them;

(2) If there was a problem, to ascertain its effects on instruction and to elicit the institutions' views on how State government might effectively respond;

(3) To determine the scientific and technical areas of instruction to which postsecondary institutions assigned the highest priority for equipment acquisition, and the amounts actually available to acquire and maintain equipment in these areas, as well as each institution's total instructional equipment budget, in recent years;

(4) If the institutions responded that there was a need for instructional equipment beyond what their available funding could meet, to ascertain a figure for the additional funding that could reasonably be used as a guide in making recommendations for action.

The survey instrument was drafted in several stages. In the first stages, revisions in format and content were based on the advice of a technical advisory committee from the field. Later revisions were based on the review and material suggestions of the chief academic officers of several public and independent postsecondary institutions. The resulting instrument is attached as Appendix A.

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[1] Instructional equipment" was defined as equipment which was used 60 percent or more for instructional purposes. "Instruction" was understood to include all levels of postsecondary education from pre-baccalaureate through doctoral.

[2] Defined as instruction in agriculture, biological sciences, communications, computer and information sciences, engineering, selected health professions, mathematics, physical sciences, data processing technologies, selected health services and paramedical technologies, engineering technology, and natural science technologies. For further information, see Appendix B.

Data Collection

In June 1986, 230 survey forms were sent to 186 postsecondary institutions in New York State and 44 of their branch campuses. There are 253 postsecondary institutions and 53 branch campuses in New York State. The institutions and branches selected for the survey were essentially all those offering scientific and technical instruction in 1985-86, whether they offered separate programs of instruction in these areas or basic courses as part of general instruction in the liberal arts. Proprietary institutions, seminaries, and specialized colleges having no scientific or technical programs were not surveyed. More detailed information on the institutions and the areas of instruction included in the survey may be found in Appendix B.

By November 1986, 154 responses had been received. These responses actually included data for 134 main campuses and 28 branch campuses—a 70 percent response rate. Twenty of the branch campuses sent separate forms; data for eight more were combined with data for their institutions' main campuses. In all, data were received for 85 percent of State University campuses surveyed, 94 percent of City University campuses, and 59 percent of independent sector campuses (see Appendix B).

Taken together, the responding institutions and branches accounted for 73 percent of total full-time equivalent enrollment in New York State in the fall of 1985, according to Department records. The respondents accounted for 70.9 percent of all upper-division undergraduate FTE enrollment in scientific and technical areas of instruction, and 83.0 percent of all FTE enrollment in organized occupational programs leading to associate degrees and certificates.[3]

[3] See Appendix B for definition of terms.

CONTEXT

Ninety percent of New York colleges and universities responding to this survey reported that inadequate funding to acquire new or replacement instructional equipment had a negative effect on their instructional programs. Funding for instructional equipment maintenance was a problem for 73 percent of these institutions. About half of the responding campuses said their problems in acquiring equipment to support scientific and technical programs had existed for more than five years. Although respondents praised the State's efforts to assist them in purchasing instructional equipment, such as State University's Academic Equipment Replacement Program and the Student Computing Access Programs for State University and City University, they reported that funds were insufficient. The following comments are typical:

> Perhaps the biggest problem in budgeting for equipment is the cost of maintenance contracts, especially for computers. (In some cases, the College has difficulty accepting valuable equipment donations because of the thousands of dollars needed for maintenance contracts.) . . . Some programs, such as the new Recombinant Gene Technology, need duplicate pieces of equipment to function well. It does little good for students always to watch demonstrations on pieces of equipment, but rarely get "hands on" experience . . . Much equipment must wait until the end of the fiscal year for purchase, since we cannot know how much may be allocated in each area until other basic needs have been cared for.

> We are able to cope only because most vital needs have been met through grants or the original capital building fund. However, about $800,000 in instructional equipment was acquired when the campus was built in 1972. Those items are now 14 years old and aging rapidly. H E L P ! !

> Large equipment purchases were struck from the budget in 1985-86 for budgetary reasons. The science laboratories need to be reequipped with modern scientific and technical materials. Fume hoods, sterilizers, incubators and the like are all needed. In the business department we will need to upgrade all the computer equipment over the next 2-3 years.

New York colleges and universities are not alone in experiencing these problems, as several national reports have documented in the past two years. In a 1985 report, "National Priorities for Undergraduate Science and Engineering Education," the American Council on Education recommended to the National Science Board what the Council considered to be the most critical national investments in education, as part of "the developing national strategy to rebuild our human and capital resources for basic science and research." The Council's first priority was undergraduate instructional equipment and materials. Observing that deficiencies in universities' research equipment had been documented and, to some extent, addressed, it stated that "the equipment deficiencies of undergraduate instructional laboratories, while less well documented, are equally serious":

> The needs are compounded by the rising cost of sophisticated equipment and its rapid obsolescence (instruments which might have had a useful life of 10-15 years may now be outdated after five years due to rapid advances in the disciplines). The needs are common to all undergraduate institutions, including community colleges.

The National Science Board, in response to "numerous signs that U.S. undergraduate education was developing serious problems," took testimony and conducted surveys in a year-long study which concluded that "problems of quality" had developed during the past decade in the infrastructure of college-level education in the United States in mathematics, engineering, and the sciences. According to the Board's March 1986 report, *Undergraduate Science, Mathematics and Engineering Education*:

> *Laboratory instruction*, which is at the heart of science and engineering education, has deteriorated . . . . Too frequently it is conducted in facilities and with instruments that are obsolete and inadequate. (The needs for new instruments alone are estimated at $2-4 billion.) It is being eliminated from many introductory courses. Much too little funding is available to support faculty with creative ideas for laboratory redevelopment.

Finding that "Students of science embark upon lifetimes of professional work of critical importance to the Nation from schools unable to offer even minimal practical experience of high quality," the report identified the following fields as among those (but by no means the only ones) with critical needs:

> –Engineering, where the baccalaureate is the main point of entry into practice;
>
> –Biology, where faculty members in all kinds of colleges and universities are hard-pressed to keep up with even the most significant developments in "an explosion in knowledge [that] has resulted in a revolution in the way the subject . . . ought to be taught";
>
> –Chemistry, where a 1984 American Chemical Society survey found that the total needs for instrumentation (largely for instructional purposes) were nearly $150 million, not including maintenance.

The report recommended a $100 million increase in the National Science Foundation's annual expenditures for undergraduate science, mathematics, and engineering education. Half would support laboratory development ($20 million) and instructional instrumentation and equipment ($30 million). One million dollars would be used to design and implement a national data base on "the qualitative and quantitative aspects of undergraduate education in mathematics, engineering and the sciences." These Federal investments would be intended "to catalyze significant efforts in the states and local governments and in the academic institutions where ultimate responsibility lies." The report recommended that state governments "give timely and responsive consideration to recommendations for improvement of . . . undergraduate education."

In 1985, the National Research Council's Committee on the Education and Utilization of the Engineer issued a report on *Engineering Education and Practice in the United States*. Among the major problems of engineering education identified in the report was equipment obsolescence:

> One retired executive of a large U.S. corporation recently reported that, upon visiting his alma mater, he found engineering students in the laboratory using the same equipment he had used in the 1930s.

One particular problem cited was the difficulty engineering schools encounter in trying to deal with the "wave of computerization" at the undergraduate level. The report recommended closer industry-university ties and a national program of government-industry-college matching grants. The National Society of Professional Engineers, in its "Legislative Agenda of the Engineering Profession," has also recommended "the use of Federal incentives, including the R & D Tax Credit and competitive grants, to stimulate private sector investment," with the National Science Foundation as the "lead agency."

New York State has attempted to address colleges' and universities' instructional equipment needs. In addition to campus appropriations for the City and State universities, recent State operating budgets have included lump sums for instructional equipment purchases. For example, in 1986-87 (illustrative of recent years), State University's operating budget included a total of $15.4 million for student computing access[4] and academic equipment replacement, plus a portion of a $4 million lump sum for engineering programs and $5.2 million for computer upgrading, only part of which directly affects academic programs. The City University's 1986-87 operating budget included a total of nearly $4.9 million for student computing access, instructional equipment, and engineering equipment matching funds. For community college instructional equipment in that year, State lump-sum appropriations to SUNY and CUNY totaled $1.5 million. Thus, in addition to campus appropriations, the public university systems received a total of over $20 million for instructional equipment in 1986-87.

New York has also taken steps to assist independent colleges and universities with their equipment needs. In 1985, the State Dormitory Authority issued bonds which made available $66 million for educational equipment and short-term capital projects at independent colleges and universities. Of this amount, about $48 million has been used or committed specifically for equipment acquisition; the Dormitory Authority estimates that about half is for academic equipment, both for instruction and for research. It plans a second bond issue for the same purpose in the near future.

Although these efforts have helped, they have not met the needs for instructional equipment acquisition and maintenance, judging from available evidence. For independent institutions, that evidence comes from the results of surveys such as the one reported in this document and the one conducted in 1985-86 by the Association of Engineering Colleges of New York State (see below). The City University and State University express their budget needs through the normal State budget process, beginning with the development each year of a budget request. In 1986-87, while SUNY received between $16 million and $20 million in the programs cited above, it had requested a total of $27.3 million for engineering equipment, student computing access, academic equipment replacement, small-computer maintenance, and community college instructional equipment, plus $5.8 million for University-wide computing development. State University's 1986-87 budget request used evidence from its equipment inven-

[4] Funded by a $25-per-student fee, as is the City University's student computing access program.

tory to support its $13.2 million academic equipment replacement request:

> The cost of replacement for all movable equipment serving the function of Instruction and Departmental Research is $377 million. Of this amount, $175.2 million, or 46.5 percent, has already passed its normal life expectancy. . . Currently, the value of Academic Equipment which is in poor condition is $17.2 million or 9.8 percent of all academic equipment which has passed normal life expectancy. In FY 1985-86, an appropriation of $11.231 million for academic equipment replacement represented only 66 percent of the value of academic equipment in poor condition. Our request for 1986-87 will allow for the replacement of 76 percent of academic equipment in poor condition.

The 1986-87 appropriation to SUNY for this purpose was $11.6 million.

While the City University received about $5.4 million in the 1986-87 State budget, it had requested a total of about $9.3 million for instructional equipment at its senior and community colleges, engineering equipment, and academic computing. Its 1986-87 capital budget requests to the State and New York City included $20 million and $1.8 million, respectively, to replace obsolete equipment for scientific and technical instruction. City University also cited figures from its equipment inventory to support this budget request:

> The 1986-87 operating budget request has been based on a portion of the annual depreciation cost of all currently-useful, movable equipment. Initial data indicates that an annual straight-line depreciation of this type of equipment would be almost $7 million. The University is requesting $4 million [for instructional equipment], an increase of $3 million over currently available funding. . . . data from the inventory indicates that 42 percent of all movable equipment has passed its useful life. The aggregate replacement cost of this equipment is more than $82 million. City University is requesting $20 million in State capital funding to purchase equipment in science and technology programs, in support of economic development.

That year, the State operating budget included $2.5 million for CUNY senior college instructional equipment; the capital budget did not include the equipment request (which CUNY renewed in its 1987-88 request).

In 1985, the Association of Engineering Colleges of New York State conducted a survey of its 21 members, the State's public and independent engineering schools. The responses showed that a total of about $54 million and an average of 2.3 years would be needed to bring engineering laboratories up to state-of-the-art, with a total annual cost of nearly $23 million for acquisition and maintenance to keep them in that condition. As a result, the Association has recommended legislation to establish a program of matching grants totaling $10 million per year for the next five years. In December 1986, the president of the Council of Engineering Technologies in New York State presented testimony to the Legislative Commission on Science and Technology concerning the instructional equipment needs of the 23 postsecondary institutions offering associate degree and baccalaureate programs in the engineering technologies. Citing New Jersey's $2 million Technical and Engineering Education Grant Program, the Council recommended establishment of a similar program to assist engineering technology programs in New York, scaled up to $10 million annually to reflect New York's larger number of degrees awarded.

Signals of difficulty in meeting equipment needs have been evident for several years. For example, respondents to the Education Department's 1982 survey of engineering schools indicated a need for some $58 million to update engineering laboratories, for both instruction and research. It was in response to such signals that the Regents 1984 Statewide Plan directed the Department to survey postsecondary institutions' needs for teaching and research equipment. This report gives the results of that survey.

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Baker, W. David. President, Council of Engineering Technology in New York State.

Kenyon, Richard A. President, Association of Engineering Colleges of New York State.

RESULTS

I. Overview: Problems with Instructional Equipment Acquisition and Maintenance

Institutions were asked whether either acquisition or maintenance of instructional equipment was a problem for them, and if so, in what broad instructional areas and for how long.

Ninety percent of the respondents reported that the need for new or replacement instructional equipment was a problem for them. For 73 percent, the need for maintenance of instructional equipment was a problem. Both acquisition and maintenance presented a problem for 72 percent; only eight percent reported that neither acquisition nor maintenance of instructional equipment was a problem. These problems may be characterized as a lack of sufficient funds to purchase and maintain instructional equipment (see sections II and III, below).

The table below summarizes the responses to these two questions (I.1 and I.2) by sector.

Table 1

Campuses Reporting Problems with Instructional Equipment Acquisition and Maintenance, by Sector

	Acquisition		Maintenance		Both		Neither	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
ALL (154)	139	90%	113	73%	111	72%	13	8%
SUNY (59)	58	98%	54	92%	53	90%	0	–
CUNY (17)	16	94%	14	82%	13	76%	0	–
INDEPENDENT (78)	65	83%	45	58%	45	58%	13	17%

The responses are detailed on summary sheets in Appendix C, Part I, by general curricular area for all respondents and each sector. The focus of the survey was on instructional equipment for scientific and technical curricula and general academic support, other than the library. In the overview, however, information was collected as well on equipment needs for nontechnical, nonscientific curricula and for the library.

Scientific and Technical Curricula and General Academic Support

Overall, 85 percent of the responding campuses reported that they had a problem acquiring equipment to support scientific and technical curricula. (For 57 percent of all campuses responding, the problem was severe.) Maintaining instructional equipment for scientific and technical curricula was a problem at 72 percent of the responding campuses (a severe problem for 46 percent). Table 2 presents these responses in detail. It shows that significant percentages of the 154 survey respondents reported problems with the acquisition and maintenance of scientific, technical, and general instructional equipment – problems which, for many campuses, had existed six years or more.

In general, higher percentages of public-sector campuses than of independent campuses reported equipment acquisition or maintenance problems. In interpreting this and the other results of the survey, the reader should bear in mind that a smaller proportion of responses was received from independent-sector campuses (59 percent) than from campuses of the City University (94 percent) or State University (85 percent); thus, the results for the independent sector are less representative than those for SUNY or CUNY. As Table 2 shows, however, there was a 20- to 30-percentage-point difference between the proportions of independent- and public-sector respondents that reported a problem in acquiring or maintaining scientific/ technical/ general instructional equipment. This difference seems too great to disappear totally, even if a comparable proportion of independent campuses had responded.

Nonscientific, Nontechnical Curricula and Library

For nontechnical, nonscientific curricula, the need to acquire or replace instructional equipment was a problem at 74 percent of the responding campuses; its maintenance was a problem at 60 percent. For the library, 69 percent of all respondents said the need to acquire or replace equipment was a problem, and 59 percent said the need to maintain library equipment was a problem.

Effect of Equipment or Maintenance Problems on Instructional Programs

From a list of ten possible effects of equipment acquisition problems, the one most frequently reported by all campuses and sectors was the inability to update certain curricula or support courses (reported by 92 percent of the respondents). For State University and independent campuses, the four effects most frequently reported were:

Effects of Problems in Acquiring Instructional Equipment	SUNY (N = 59*)		Independent (N = 65*)	
	No.	Pct.	No.	Pct.
1. Inability to update certain curricula or support courses	56	95%	59	91%
2. Inconvenient schedules for use of equipment	48	81%	52	80%
3. Student dissatisfaction	44	75%	44	68%
4. Could not add new programs of instruction	41	70%	37	57%

Seventy percent of State University campuses also reported that they had had to limit enrollment in some programs due to problems in acquiring new or replacement instructional equipment, an effect reported by 49 percent of the independent campuses. The effects most frequently reported by City University campuses were:

Effects of Problems in Acquiring Instructional Equipment	CUNY (N = 17*)	
	Number	Percent
1. Inability to update curricula/courses	15	88%
2. Could not add new programs of instruction	13	77%
3. Student dissatisfaction	13	77%
4. Weakened support for remedial/developmental programs	12	71%
5. Limited enrollment in some programs	10	59%

Substantial proportions of all respondents also reported weakened support for remedial/developmental programs, limited enrollment in some programs, and difficulty in either attracting or keeping faculty as a result of problems in acquiring new or replacement instructional equipment. In fact, the only two effects of acquisition problems which were not reported by at least one-quarter of all the responding campuses were the dropping of some programs (seven percent) and the limiting of enrollment institution-wide (six percent).

The chief effects of equipment maintenance problems were student dissatisfaction (51 percent), inability to update certain curricula or courses (41 percent), inconvenient schedules for use (40 percent), and limited enrollment in some programs (31 percent). Weakened support for remedial/developmental programs as a result of equipment maintenance problems was reported by one-quarter of all respondents (and by 41 percent of City University campuses).

Table 2

Campuses Reporting a Problem in Acquiring or Maintaining Instructional Equipment, New York State, by General Curricular Area and Sector

Sector	Tech./Sci. Curricula: Moderate or Severe Problem		Tech./Sci. Curricula: 6 Years or More		General Academic Support: Moderate or Severe Problem		General Academic Support: 6 Years or More	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
SUNY (59)								
Acquisition	56	96%	37	62%	55	93%	25	42%
Maintenance	52	88%	30	51%	50	85%	27	46%
CUNY (17)								
Acquisition	16	94%	12	70%	14	82%	7	41%
Maintenance	14	82%	9	53%	13	76%	4	24%
Total – Public (76)								
Acquisition	72	95%	49	64%	69	91%	32	42%
Maintenance	66	87%	39	51%	63	83%	31	41%
Independent (78)								
Acquisition	58	75%	25	32%	55	71%	15	19%
Maintenance	45	58%	16	21%	41	53%	8	10%
All Respondents (154)								
Acquisition	130	85%	74	48%	124	81%	47	31%
Maintenance	111	72%	55	36%	104	68%	39	25%

* Respondents answered this question (I.3) and the following set of questions (II, total equipment budget) only if they had answered "Yes," that either acquisition or maintenance of instructional equipment was a problem.

Other effects added by one or more respondents included undesirable instructional situations (inefficient use or diversion of instructional time, inability to integrate new audio-visual materials into curricula, inability to cover a particular area of a curriculum, lack of equipment at off-campus centers) and adverse effects on the faculty's satisfaction or professional development. One institution mentioned weakened outreach efforts to business and industry; another stated that it "had to be very conscious of. . .health and safety regulations."

Summaries of responses overall and by sector are given in Appendix C, Part I.

II. Total Equipment Budget

Instructional Equipment Funds per FTE, 1985-86

Because the responding institutions vary so widely by mission and size, average figures for the total institutional equipment budget have little meaning. Even within a given institutional type, size and circumstances (e.g., the opening of a new building) can cause the dollar amounts available at an institution for instructional equipment to vary.

In addition, respondents varied in their ability to provide accurate figures on Part II. In all, 121 campuses provided data on total equipment budgets (85 percent of the 141 that indicated equipment problems in Part I). Some were able to provide relatively exact amounts; many submitted rounded, "ballpark" figures.

To put these figures in a relevant context, the amount given by each responding institution for 1985-86 was divided by fall 1985 full-time equivalent enrollment at that institution. Total funds available to all departments except the library for instructional equipment and maintenance in 1985-86 amounted to $150 or less per full-time equivalent student at three-quarters of the 121 campuses that provided data (Tables 3 and 4). At nearly three-fifths, the amount was $100 or less; at one-quarter of the campuses, the funds were $50 or less per FTE. Fewer than ten percent of the 121 respondents reported an equipment budget amounting to more than $250 per FTE. These results did not vary widely by sector, with one exception: at 88 percent of the 17 responding City University campuses, the in-

Table 3

Funds Available for Instructional Equipment per FTE 1985-86, by Sector

Instructional Equipment Funds per FTE (1985-86)	SUNY		CUNY		INDEPENDENT		All Responding Campuses*	
	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent
$0-$50	5	9.8%	5	29.4%	20	37.7%	30	24.8%
$51-$100	20	39.2%	10	58.8%	12	22.6%	42	34.7%
$101-$150	10	19.6%	2	11.8%	6	11.3%	18	14.9%
$151-$200	7	13.7%	0	–	5	9.4%	12	9.9%
$201-$250	4	7.8%	0	–	4	7.5%	8	6.6%
$251-$300	1	2.0%	0	–	2	3.8%	3	2.5%
$301-$400	1	2.0%	0	–	0	–	1	0.8%
$401-$500	0	–	0	–	3	5.7%	3	2.5%
$501-$1,000	1	2.0%	0	–	0	–	1	0.8%
$1,001-$2,000	2	3.9%	0	–	0	–	2	1.7%
$2,001-$2,500	0	–	0	–	1	1.9%	1	0.8%
TOTAL	51	100.0%	17	100.0%	53	100.0%	121	100.0%

* I.e., all those that reported a problem with acquiring or maintaining instructional equipment and provided data on instructional equipment funds.

Table 4

Funds Available for Instructional Equipment per FTE 1985-86, by Highest Degree Awarded

Instructional Equipment Funds per FTE (1985-86)	Highest Degree: Doctoral		Graduate No Doct.		Baccalaureate		Associate		Health Sciences Ctrs. Reported Separately		All Responding Campuses*	
	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent
$0-$50	1	5.3%	15	41.6%	4	22.2%	10	22.7%	0	0.0%	30	24.8%
$51-$100	4	21.1%	12	33.3%	8	44.4%	18	40.9%	0	0.0%	42	34.7%
$101-$150	3	15.8%	6	16.7%	2	11.1%	7	15.9%	0	0.0%	18	14.9%
$151-$200	2	10.5%	1	2.8%	2	11.1%	5	11.4%	2	50.0%	12	9.9%
$201-$250	3	15.8%	1	2.8%	1	5.6%	3	6.8%	0	0.0%	8	6.6%
$251-$300	1	5.3%	0	0.0%	1	5.6%	1	2.3%	0	0.0%	3	2.5%
$301-$400	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	25.0%	1	0.8%
$401-$500	2	10.5%	1	2.8%	0	0.0%	0	0.0%	0	0.0%	3	2.5%
$501-$1,000	1	5.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	0.8%
$1,001-$2,000	1	5.3%	0	0.0%	0	0.0%	0	0.0%	1	25.0%	2	1.7%
$2,001-$2,500	1	5.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	0.8%
TOTAL	19	100.0%	36	100.0%	18	100.0%	44	100.0%	4	100.0%	121	100.0%

*I.e., all those that reported a problem with acquiring or maintaining instructional equipment and provided data on instructional equipment funds.

structional equipment budget was less than $100 per FTE (Table 3). Across the sectors, the proportion of doctoral institutions and health sciences centers reporting instructional equipment budgets of $250 or more per FTE was far larger than that of institutions granting other graduate, baccalaureate, and associate degrees (Table 4).

Change in Total Instructional Equipment Budget, 1983-84 through 1986-87

The amounts given for 1983-84 through 1986-87 were analyzed to see whether the total funds available for instructional equipment had risen, remained the same, or dropped: (1) over the four years and (2) between 1985-86 and 1986-87. The results are presented on the summary forms in Appendix C, Part II. In general, over the four-year span increases in the funds available for instructional equipment were reported more often than decreases (equipment funds increased at 72 percent and decreased at 43 percent of responding campuses during that period); the same was true between 1985-86 and 1986-87, but by a much narrower margin (increases, 65 percent; decreases, 55 percent).

Maintenance Budget for Instructional Equipment

Institutions were also asked what percentage of their instructional equipment budget was devoted to maintenance in each of the four years. Some reported that maintenance came out of a separate budget; some were unable to provide a percentage. For the 108 respondents to this question, the mean for maintenance in 1985-86 was 20.5 percent of total instructional equipment funds. Between 1983-84 and 1986-87, the maintenance percentage had increased at 44 percent of the campuses, decreased at 21 percent, and remained about the same at 35 percent (Appendix C, Part II).

Allocation of Total Instructional Equipment Budget

Over the three-year period from 1983-84 to 1985-86, the 129 campuses responding to this question on the survey reported allocating, on the average, about 78 percent of their total instructional equipment budgets (excluding the library) to technical/scientific curricula and general academic support. For 55 State University campuses, the average was 73 percent; for 14 City University campuses, the average was 81 percent; and for 60 independent campuses, the average was about 82 percent.

The average percentages allocated to each of 29 general areas of instruction are shown in Appendix C, Part II, together with the number of campuses responding for each area of instruction and the maximum percentage which any campus reported allocating to that instructional area. There is a summary form for all institutions, one for each sector, and within each public sector, one for community colleges and one for other institutions.

III. Identifying Highest-Priority Equipment Needs in Scientific and Technical Areas of Instruction

What were the scientific and technical areas to which New York colleges and universities assigned the highest priority for acquiring or replacing instructional equipment? General academic support,[5] computer/information science, and biological sciences were the three identified most frequently by the 131 respondents to this part of the questionnaire (both public and independent). Engineering and engineering technologies, chemistry, and communications were also frequently selected. For more detailed information, see Appendix B.

Reasons for Selecting High-Priority Instructional Areas

The reason most often given for selecting high-priority areas for equipment acquisition was that current equipment was out-of-date. Poor condition of current equipment and changes of emphasis or new direction in the instructional area were also frequent reasons (Table 5). This table shows that for campuses of the City University, poor condition of equipment ranked a close second to outdated equipment as a reason for selecting high-priority areas for equipment acquisition. For the independent campuses responding, changes of instructional emphasis ranked as a relatively more frequent reason than it did for campuses of State University or City University.

Amount of Highest-Priority Equipment Needs in Scientific and Technical Areas of Instruction

Of the 139 separately responding campuses for which instructional equipment acquisition was a problem, 116 were able to provide data on their 1985-86 budgets for their highest-priority areas of instructional equipment need as requested in Part III.

The "Need" in each instructional area was calculated by adding the amount actually budgeted in 1985-86 for instructional equipment in the area and the amount received in 1985-86 for this purpose from external sources, then subtracting this total from the amount identified in the 1985-86 budget development process/budget request for the instructional equipment needs in the instructional area.

Hence, "Need" represents only the difference between amount requested and amount available in three instructional areas per campus. To the extent that requests were submitted which were unrealistically high, "need" would be correspondingly overstated. To the extent that requests were restricted, "need" would be understated (some needs would not be included). Table 6 shows that requests were restricted at nearly two-fifths of all the responding campuses (ranging from 25 percent of the City University campuses to 45 percent of the State University campuses).

For 82 responding campuses (71 percent of the 116 for which data were available on this section of the survey), "need" in at least one of the highest-priority scientific and

Table 6

Number of Campuses Reporting Budgetary Restrictions on Departments Regarding the Amount Which Could Be Requested for Equipment Replacement or Acquisition in 1985-86

	ALL		SUNY		CUNY		IND.	
	#	Pct.	#	Pct.	#	Pct.	#	Pct.
YES-Restrictions	53	38%	26	45%	4	25%	23	35%
NO-Restrictions	86	62%	32	55%	12	75%	42	65%
	139		58		16		65	

Table 5

Reasons Given for Selecting Priority Areas of Instruction

In Order of Frequency,* Overall:	Frequency of Choice: *			
	ALL	SUNY	CUNY	IND.
1. Current equipment out-of-date:	238	109	32	97
2. Current equipment in poor condition:	176	78	29	69
3. Changes of emphasis/new direction in field:	165	71	18	76
4. Enrollment growth in field:	148	68	21	59
5. Area recently initiated as field of instruction:	79	37	9	33
6. Other (specify):	30	17	5	8

* For priority area 1,2, or 3 of Part III.
Number of responses: 131 (85 percent of survey respondents).

[5] Defined as such instructional resources (excluding the library) as language laboratories, computers and computer-aided equipment to support instruction in more than one discipline, and audiovisual equipment.

technical areas of instruction was greater than zero. By sector, the numbers of campuses for which this was true were as follows:

SUNY:	34 campuses out of 48
CUNY:	13 campuses out of 15
Independent:	35 campuses out of 53
TOTAL:	82 campuses out of 116

This difference between equipment budget requests and amounts available for instructional equipment in 1985-86 is characterized in this report as "unmet need."

It is important to note that the "total unmet need" summarized here is *not* the total of all the need for instructional equipment funding that remained unmet from campus, State, or other external sources in 1985-86. First, survey forms were returned by 94 percent of City University campuses, 85 percent of State University campuses, and 59 percent of independent college campuses surveyed – about half of all the higher education campuses in the State. In all, 116 campuses provided the data necessary for the "need" calculation. Second, the results represent only 19 broad instructional areas defined as scientific, technical, or general academic support. Respondents could select up to three of these as their "highest-priority" areas for instructional equipment acquisition.[6] The dollar amounts calculated for "unmet need" certainly understate the results if all degree-granting institutions in the State had been surveyed and if all instructional areas had been included.[7] Third, the results were derived by calculation from data of varying degrees of exactitude as reported on the survey forms.

With these cautions, however, the results presented here indicate clearly that New York colleges and universities – both public and independent – have funding needs for instructional equipment acquisition and maintenance that are not being met. The "need" calculation shows that there was "unmet need" in the highest-priority areas at seven out of ten campuses that were able to provide data. Further, the amount of "unmet need" shown here provides an indication of the additional amount that the State's colleges and universities would need for instructional equipment acquisition and maintenance in order to alleviate the detrimental effects on instruction cited earlier in this report.

The results of these "unmet need" calculations, given these cautions, are shown in the following set of tables. The total "unmet need" for 15 scientific/ technical areas of instruction and general academic support was about $40 million (Table 7). (Earth science, occupational therapy, and radiologic technologies do not appear on the list because no campus selected these as high-priority areas for instructional equipment acquisition.) Nearly all (99 percent) of this "unmet need" was in general academic support and nine "top" instructional areas (engineering, computer/ information science, communications, engineering technologies, chemistry, medicine, physics, biological sciences, and agriculture; see Table 8). However, these "top ten" varied by sector. The differences summarized below are shown on Table 9, for each sector as a whole; Table 10, for SUNY state-operated campuses (including statutory colleges) and community colleges; and Table 11, for CUNY senior colleges and community colleges.[8]

State University of New York: 48 campuses were able to provide data (19 State-operated and 29 community college campuses). Of these, 34 (71 percent) were calculated to have "unmet need" in at least one of the scientific/ technical/ general academic support fields they selected as having highest priority for instructional equipment acquisition (12 State-operated and 22 community college campuses). Total "unmet need" for the "top ten" fields at these 34 campuses came out to nearly $10 million for 1985-86. Engineering technologies ranked first ($3.6 million), showing substantial "unmet need" among both State-operated campuses and community colleges (Table 10). The high "unmet need" in general academic support (nearly $2 million) was almost entirely among the State-operated campuses; for eight of 11 State-operated campuses, the difference between amounts requested and available for general academic support came to $1.8 million, while for six of 21 community college campuses, the "unmet need" for general academic support was calculated to be a little over $100,000. Agriculture was an area of high "need" in dollars ($1.3 million), attributable to two State-operated campuses; similarly, speech pathology was a high-"need" area for one State-operated campus.

The City University of New York: 15 campuses were able to provide data (eight senior colleges and seven community

[6] Since these were the "highest priority" areas for instructional equipment acquisition, it is not surprising that a number of campuses showed no "unmet need." It is possible that in the rest of the instructional areas, less of the "need" might have been met, with institutions choosing to direct most available funding to "highest-priority" areas.

[7] No attempt was made to extrapolate these results for all colleges and universities or for all areas of instruction, although this possibility was considered. The institutions are too diverse, in curricular offerings, size and emphasis on research; the equipment needed to offer instruction differs too widely from instructional area to area.

[8] On Tables 8, 9, 10, and 11, the columns headed "Frequency" show the numbers of campuses calculated to have "unmet need" in each area of instruction. They add up to more than the total number of campuses reporting data because each campus could select up to three high-priority areas of instruction on the survey form.

Table 7

"Unmet Need" – All Science/Technology/General Areas, 1985-86

Survey Code	Instructional Area	Total "Unmet Need"	Frequency of Choice*
01	Agriculture	$1,266,800	2
02	Biological Sciences	$1,690,277	27
03	Chemistry	$3,017,306	20
04	Communications	$4,418,550	8
05	Computer/Information Science	$5,885,020	32
07	Engineering	$9,376,100	11
08	Engineering Technologies	$4,168,831	19
09	Mathematics	$ 191,000	1
10	Physics	$1,819,233	9
11	Medicine	$2,170,600	2
12	Dental Hygiene	$ 4,200	1
13	Medical Laboratory Technology	$ 37,178	2
14	Nursing	$ 22,319	4
16	Physical Therapy	$ 55,800	2
18	Speech Pathology	$ 129,200	2
19	General Academic Support	$5,597,640	33
	TOTAL	$39,850,054	175

* As High-Priority Area 1, 2, or 3 on Part III.
Number of respondents: 82 (53 percent of survey respondents).

colleges). Of these, 13 (87 percent) were calculated to have "unmet need" in at least one high-priority instructional area (eight senior colleges and five community colleges). Total "unmet need" was nearly $5 million, almost evenly divided between senior and community colleges. General academic support led the list, with particularly high "unmet need" among the community colleges ($1.4 million, half the CUNY community college total). City University campuses showed far greater "unmet need" in biological sciences than did those in the other sectors: $1 million, or 20 percent of the "top ten" total, compared with three percent of the total for SUNY and one percent among the independent college campuses. Communications was not identified as a high-priority area for instructional equipment acquisition by any CUNY campus, although five of the senior colleges offer programs in this field.

Independent Institutions: 35 campuses out of 53 (66 percent) were calculated to have "unmet need" in at least one high-priority instructional area. The total "unmet need" for the "top ten" instructional areas was nearly $25 million. Engineering was the top-ranking area in "unmet need" for instructional equipment, totaling $8.6 million among nine independent campuses. Computer/ information science, chemistry, and general academic support were other high-"need" areas for relatively large numbers of campuses ($1.8 million to $4.2 million, 11 to 14 campuses). Communications was a very high-"need" area for one independent campus (nearly $4 million); physics and medicine also showed large amounts of "unmet need" for one or two campuses ($1.5 million and $1.4 million).

Items Listed as Samples of Equipment Requested, but Not Included in Actual 1985-86 Budget

What actual items of instructional equipment are represented in the aggregate amounts presented in the previous section? For instructional areas identified as "high-priority" on the survey, what items of equipment were requested, but not included in the institutions' 1985-86 budgets? Table 12 shows the "Top Ten Fields," in the same order as Table 8, with the number of campuses listing needed items, the number of items, and the total estimated cost of items listed in each field by all campuses. To scan lists of sample items provided by the campuses on the survey forms (Appendix D) helps to flesh out this abstract presentation. It is worth noting that in *all* ten fields, computer equipment was listed among the sample items requested.

Table 8

"Unmet Need" – Top Ten Fields, Overall

Field	OVERALL (82 RESPONSES)* Amount	Percent of Top 10	Frequency**	SUNY (34 RESPONSES)* Amount	Percent of Top 10	Frequency**	CUNY (13 RESPONSES)* Amount	Percent of Top 10	Frequency**	INDEPENDENT (35 RESPONSES)* Amount	Percent of Top 10	Frequency**
1. Engineering	$9,376,100	23.8%	11	$ 700,000	7.1%	1	$ 30,000	0.6%	1	$8,646,100	34.6%	9
2. Computer/Info. Science	$5,885,020	14.9%	32	$ 769,170	7.9%	14	$ 937,300	20.2%	6	$4,178,550	16.7%	12
3. General Acad. Support	$5,597,640	14.2%	33	$1,908,953	19.5%	14	$1,896,887	40.9%	8	$1,791,800	7.2%	11
4. Communications	$4,418,550	11.2%	8	$ 411,550	4.2%	6	–	–	–	$4,007,000	16.0%	2
5. Engineering Technologies	$4,168,831	10.6%	19	$3,562,031	36.4%	14	$ 240,000	5.2%	1	$ 366,800	1.5%	4
6. Chemistry	$3,017,306	7.7%	20	$ 28,076	0.3%	3	$ 271,400	5.8%	3	$2,717,830	10.9%	14
7. Medicine	$2,170,600	5.5%	2	$ 765,600	7.8%	1	–	–	–	$1,405,000	5.6%	1
8. Physics	$1,819,233	4.6%	9	$ 47,633	0.5%	4	$ 285,000	6.1%	3	$1,486,600	6.0%	2
9. Biological Sciences	$1,690,277	4.3%	27	$ 334,905	3.4%	8	$ 980,800	21.1%	6	$ 374,572	1.5%	13
10. Agriculture	$1,266,800	3.2%	2	$1,266,800	12.9%	2	–	–	–	–	–	–
TOTAL-OVERALL TOP 10	$39,410,357		163	$9,794,718		67	$4,641,387		28	$24,974,252		68

* Number of respondents: 82, overall (53 percent of 154 survey respondents); 34, SUNY (58 percent of 59 survey respondents); 13 CUNY (76 percent of 17 survey respondents); 35, independent (45 percent of 78 survey respondents).

** As High-Priority Area 1, 2, or 3 on Part III.

On Tables 8, 9, 10, and 11, the columns headed "Frequency" show the numbers of campuses calculated to have "unmet need" in each area of instruction. They add up to more than the total number of campuses reporting data because each campus could select up to three high-priority areas of instruction on the survey form.

Table 9

"Unmet Need"—Top Ten Fields of Each Sector

SUNY (34 RESPONSES)	Percent of Sector Total	Amount	Frequency**	CUNY (13 RESPONSES)	Percent of Sector Total	Amount	Frequency**	INDEPENDENT (35 RESPONSES)	Percent of Sector Total	Amount	Frequency**
1. Engineering Technologies	36%	$3.6M	14	1. General Acad. Support	39%	$1.9M	8	1. Engineering	35%	$8.6M	9
2. General Acad. Support	19%	$1.9M	14	2. Biological Sciences	20%	$1.0M	6	2. Computer/Info. Science	17%	$4.2M	12
3. Agriculture	13%	$1.3M	2	3. Computer/Info. Science	19%	$0.9M	6	3. Communications	16%	$4.0M	2
4. Computer/Info. Science	8%	$0.8M	14	4. Physics	6%	$0.3M	3	4. Chemistry	11%	$2.7M	14
5. Medicine	8%	$0.8M	1	5. Chemistry	6%	$0.3M	3	5. General Acad. Support	7%	$1.8M	11
6. Engineering	7%	$0.7M	1	6. Engineering Technologies	5%	$0.2M	1	6. Physics	6%	$1.5M	2
7. Communications	4%	$0.4M	6	7. *Mathematics	4%	$0.2M	1	7. Medicine	6%	$1.4M	1
8. Biological Sciences	3%	$0.3M	8	8. Engineering	1%	$ 30K	1	8. Biological Sciences	1%	$0.4M	13
9. *Speech Pathology	1%	$0.1M	1	9. *Med. Lab. Tech.	0.4%	$ 20K	1	9. Engineering Technologies	1%	$0.4M	11
10. Physics	0.5%	$ 48K	4	10. *Nursing	0.4%	$ 18K	1	10. *Physical Therapy	0.2%	$ 55K	1
[11. Chemistry	0.3%	$ 28K	3]								
SUNY "Top 10" Total		$9,877,872	65	CUNY "Top 10" Total		$4,869,987	31	Independent "Top 10" Total		$25,029,552	69

M = Million
K = Thousand

* Not in overall "Top 10."

** As High-Priority Area 1, 2, or 3 on Part III.
Number of respondents: 34, SUNY (58 percent of 59 survey respondents); 13, CUNY (76 percent of 17 respondents); 35, independent (45 percent of 78 survey respondents).

On Tables 8, 9, 10, and 11, the columns headed "Frequency" show the numbers of campuses calculated to have "unmet need" in each area of instruction. They add up to more than the total number of campuses reporting data because each campus could select up to three high-priority areas of instruction on the survey form.

Table 10

"Unmet Need" – Top Ten Fields for SUNY State-Operated Campuses and Community Colleges

SUNY State-Operated Campuses (N = 12)				SUNY Community College Campuses (N = 22)			
Field	Pct. of Total	Amount	Frequency	Field	Pct. of Total	Amount	Frequency
1. General Acad. Support	27%	$1.8M	8	1. Engineering Technologies	60%	$2.0M	12
2. Engineering Technologies	24%	$1.6M	2	2. Computer/Info. Science	21%	$0.7M	12
3. Agriculture	19%	$1.3M	2	3. Communications	9%	$0.3M	4
4. Medicine	12%	$0.8M	1	4. Biological Sciences	5%	$0.2M	3
5. Engineering	11%	$0.7M	1	5. General Acad. Support	3%	$0.1M	6
6. Biological Sciences	3%	$0.2M	5	6. Physics	1%	$ 39K	3
7. Communications	2%	$0.1M	2	7. *Medical Lab. Technologies	0.5%	$ 17K	1
8. *Speech Pathology	2%	$0.1M	1	8. Chemistry	0.4%	$ 13K	2
9. Computer/Info. Science	1%	$ 71K	2	9. *Dental Hygiene	0.1%	$ 4K	1
10. Chemistry	0.3%	$ 15K	1	10. *Nursing	0.1%	$ 4K	2
SUNY State-Operated Campuses "Top Ten" Total: $6,575,934			25	SUNY Community Colleges "Top Ten" Total: $3,347,281			46

* Not in overall "Top Ten."

Table 11

"Unmet Need" – Top Fields for CUNY Senior Colleges and Community Colleges

CUNY Senior Colleges (N = 8)				CUNY Community Colleges (N = 5)			
Field	Pct. of Total	Amount	Frequency	Field	Pct. of Total	Amount	Frequency
1. Biological Sciences	27%	$0.6M	4	1. General Acad. Support	52%	$1.4M	4
2. Computer/Info. Science	23%	$0.5M	4	2. Computer/Info. Science	16%	$0.4M	2
3. General Acad. Support	23%	$0.5M	4	3. Biological Sciences	14%	$0.4M	2
4. Chemistry	12%	$0.3M	3	4. Engineering Tech.	9%	$0.2M	1
5. Physics	12%	$0.3M	2	5. *Mathematics	7%	$0.2M	1
6. Engineering	1%	$ 30K	1	6. *Nursing	0.7%	$ 18K	1
7. *Medical Lab. Technologies	1%	$ 20K	1	7. Physics	0.6%	$ 15K	1
CUNY Senior Colleges "Top Fields" Total: $2,204,387			19	CUNY Community Colleges "Top Fields" Total: $2,665,600			12

* Not in overall "Top Ten."

On Tables 8, 9, 10, and 11, the columns headed "Frequency" show the numbers of campuses calculated to have "unmet need" in each area of instruction. They add up to more than the total number of campuses reporting data because each campus could select up to three high-priority areas of instruction on the survey form.

Table 12

Instructional Equipment Items Requested, but Not Included in Campuses' 1985-86 Budgets Overall Top Ten Fields

Instructional Area	Frequency	Number of Items	Total Est. Cost
1 Engineering	15	102	$13,039,050
2 Computer/Info. Science	35	90*	$ 4,279,534
3 General Acad. Support	32	80	$ 7,230,000
4 Communications	10	33	$ 1,988,957
5 Engineering Technologies	26	93*	$ 2,546,658
6 Chemistry	20	48	$ 2,757,075
7 Medicine	4	54	$ 2,493,856
8 Physics	8	13	$ 335,600
9 Biological Sciences	30	71	$ 2,275,433
10 Agriculture	2	11	$ 442,000
TOTAL	182	595	$37,388,163
Total-All Science/Tech. Fields and General Academic Support	194	614	$37,683,263

* One item was listed with no estimated cost.

Note: Number of campuses listing items in science/technical fields and general academic support: 74 (28 SUNY, 11 CUNY, 35 independent). Frequency on this table is greater than number of campuses responding because each respondent could select up to three high-priority instructional fields.

IV. Respondents' Recommendations

In all, 130 campuses responded to this section of the survey. The summary form on page 20 lists the possible recommendations for State actions which might assist colleges and universities with problems of unmet instructional equipment or maintenance needs, as they were listed on the survey form, and shows the most frequent choices among all respondents and by sector. Table 13 (page 21) shows the number of campuses selecting each recommendation as their first, second, and third choice, overall and by sector.

The most frequent recommendation of independent institutions was to establish equipment grant program(s) for public and independent postsecondary institutions (#1). This was the second choice among the public-sector campuses; their most frequent recommendation was to increase their budget allocations for instructional equipment to match institutional requests more closely (#2). Among all responding campuses, other frequent recommendations were to establish a dedicated revenue stream via more pooled bonding issues like the 1985 Educational Equipment and Short-Term Capital Projects bonds issued by the New York State Dormitory Authority (#5) and to build maintenance funds into acquisition grant programs (#4). Thirty-eight percent of the City University campuses recommended dedicating a portion of the public universities' tuition and fees revenues (#6), a recommendation which was less popular among State University respondents (24 percent of which selected this recommendation). Changes in tax policy to encourage equipment donations or loans by business and industry (Recommendation #3) was selected by 59 percent of the independent respondents, but by only 24 percent of the State University campuses and 19 percent of the City University campuses.

Few respondents suggested other recommendations (nine out of 130). Their recommendations were:

- Provide positions to support instructional and research computing centers, operation of audiovisual equipment and adequate equipment maintenance funds. (A statutory college of State University)
- Continue or enhance special equipment funding for community colleges. (A community college)
- Establish a separate budget item for equipment for community colleges, prorated to each institution on the basis of a ratio of established program/course equipment costs and program/course enrollments, each to be reviewed yearly. (A community college)
- Adequately support current high quality program efforts with equipment and maintenance dollars, and stop duplication and proliferation of expensive technologies in new program development. [Instead,] encourage "1+1" and "2+2" relationships. . . .Perhaps even consider "1+2+1" as a pattern for high-tech programs between B.S. and A.A.S. levels. (A community college)
- Increase base State aid. (A community college)
- Enhance "Bundy" grants by adding ten percent for instructional equipment. (An independent college)
- Per-capita supplement in technical and scientific areas. (An independent college)
- Establish a Bundy-type grant program geared to doctoral production in equipment-oriented fields. (An independent university)
- Provide leadership in establishment of sharing networks, consortiums. (A nursing school)

Summary Recommendation Form and Tabulated Results

IV. Recommendations:

Following are several recommendations related to how New York State can most effectively assist in problems of unmet instructional equipment or maintenance needs. Please read the recommendations and choose the three that are, in your opinion, the most important.

In the "other" category, please feel free to make any suggestions for government activity that would enhance the cause for support of instructional equipment and maintenance funding.

1. Establish substantial grant program(s) for acquisition of instructional equipment by public and independent postsecondary institutions
2. Increase the budget allocations for instructional equipment at public institutions to more closely match institutional requests
3. Encourage equipment donations or loans by business and industry through changes in tax policy
4. Build maintenance funds into acquisition grant programs
5. Establish a dedicated revenue stream via more pooled bonding issues like the Dormitory Authority's 1985 Educational Equipment and Short-Term Capital Projects
6. Dedicate a portion of the public universities' tuition and fees revenues
7. Other (Specify):

Most Frequently Selected Recommendations
(as First, Second, or Third Choice)

	(N=130) ALL		(N=55) SUNY		(N=16) CUNY		(N=59) INDEPENDENT	
	Rec.#	Freq.	Rec.#	Freq.	Rec.#	Freq.	Rec.#	Freq.
Most Frequently Selected	1	104	2	43	2	16	1	59
Second Most Frequently Selected	5	72	1	37	1,5	8	4,5	38
Third Most Frequently Selected	4	68	5	26	6	6	3	35

Table 13

Number of Campuses Selecting Each Recommendation as First, Second, and Third Choice

	All (N = 130)			SUNY (N = 55)			CUNY (N = 16)			INDEPENDENT (N = 59)		
	#1	#2	#3	#1	#2	#3	#1	#2	#3	#1	#2	#3
1. Establish substantial grant program(s) for acquisition of instructional equipment by public and independent postsecondary institutions	55	26	23	7	13	17	1	4	3	47	9	3
2. Increase the budget allocations for instructional equipment at public institutions to more closely match institutional requests	41	15	5	31	9	3	10	4	2	–	2	–
3. Encourage equipment donations or loans by business and industry through changes in tax policy	3	25	23	–	6	7	1	–	2	2	19	14
4. Build maintenance funds into acquisition grant programs	2	29	37	–	14	11	1	1	3	1	14	23
5. Establish a dedicated revenue stream via more pooled bonding issues like the Dormitory Authority's 1985 Educational Equipment and Short-Term Capital Projects	16	31	25	9	10	7	–	5	3	7	16	15
6. Dedicate a portion of the public universities' tuition and fees revenues	6	4	9	4	2	7	2	2	2	–	–	–
7. Other (Specify)	7	–	2	4	–	–	1	–	–	2	–	2

APPENDICES

APPENDIX A

Survey Instrument

APPENDIX B

Technical Information

APPENDIX C

Summary Forms

APPENDIX D

Items Listed as Samples of Equipment Requested, but Not Included in Actual 1985-86 Budget, Top Ten Fields

APPENDIX A

The University Of The State Of New York
THE STATE EDUCATION DEPARTMENT
Bureau of Postsecondary Planning
Cultural Education Center Room 5B44
Albany, New York 12230

HIGH PRIORITY EQUIPMENT NEEDS FOR INSTRUCTION AT POSTSECONDARY INSTITUTIONS IN NEW YORK STATE

This survey is being conducted to acquire data on the high priority needs of New York State's postsecondary institutions for new or replacement equipment to support existing programs of instruction. For purposes of focus, certain scientific and technological fields have been selected for particular attention; these are listed in part II of this form. While it is understood that the same piece of equipment is frequently used for both instruction and research, in this survey, you are asked to provide information on equipment which will be used primarily for purposes of instruction (i.e., 60 percent or more of its use is for instructional purposes).

The intent of this questionnaire is to reflect priorities and needs identified at the institution-wide level -- i.e., those identified as a result of the budget development process after it has progressed through the department and division levels to the chief academic officer. Accordingly, it has been designed for the chief academic officer as the questionnaire respondent. In the case of institutions with branch campuses, a separate form has been included for each campus to be surveyed.

The results of this survey will form a report to the Governor and Legislature, consisting of the findings together with fiscal implications and suggestions for action. Participating institutions will receive a summary of the survey results and the ensuing report.

For Office Use Only

Name of Institution: _____

Institution Code: _____ Level: _____ Region: _____

Respondent's Name: _____

Title: _____

Telephone: _____ | _____ | _____
(Area Code) (Number) (Extension)

Mail one copy of the completed form on or before July 31, 1986 to:

Bureau of Postsecondary Planning
New York State Education Department
Cultural Education Center, Room 5B44
Empire State Plaza
Albany, New York 12230

If you have any questions concerning the completion of this survey or use of the data on this form, please contact Dr. Celia Diamond at (518) 474-7416.

The University Of The State Of New York
THE STATE EDUCATION DEPARTMENT
Bureau of Postsecondary Planning
Cultural Education Center Room 5B44
Albany, New York 12230

I. Overview: Instructional Equipment Acquisition and Maintenance

1. Is the need for new or replacement instructional equipment a problem in your institution? ..... ☐ Yes ☐ No

If yes, indicate the instructional areas in which it is a problem, the severity of the problem and how long it has been a problem:

Instructional Area	Severity of the Problem		Number of Years Problem has Existed			
	Moderate	Severe	One Year	2 - 5 Years	6 - 10 Years	More than Ten Years
Technical and Scientific Curricula	☐	☐	☐	☐	☐	☐
Nontechnical, Nonscientific Curricula	☐	☐	☐	☐	☐	☐
Library	☐	☐	☐	☐	☐	☐
Other General Academic Support (learning labs, computer centers, audio-video centers etc.)	☐	☐	☐	☐	☐	☐

2.. Is the need for maintenance of instructional equipment a problem in your institution? ..... ☐ Yes ☐ No

If yes, indicate the instructional areas in which it is a problem, the severity of the problem and how long it has been a problem:

Instructional Area	Severity of the Problem		Number of Years Problem has Existed			
	Moderate	Severe	One Year	2 - 5 Years	6 - 10 Years	More than Ten Years
Technical and Scientific Curricula	☐	☐	☐	☐	☐	☐
Nontechnical, Nonscientific Curricula	☐	☐	☐	☐	☐	☐
Library	☐	☐	☐	☐	☐	☐
Other General Academic Support (learning labs, computer centers, audio-video centers etc.)	☐	☐	☐	☐	☐	☐

Instructions For Completing The Remainder Of This Survey

If you answered NO to both items 1 and 2 on the previous page, stop here and return the survey.

If the answer was NO to item 1 and YES to item 2, complete the survey through Section II only and return the survey.

Complete the entire survey if the answer to item one was YES.

3. If either the need for instructional equipment or maintenance of instructional equipment is a problem, indicate the effects of the problem on instruction (check all that apply):

Effect (s) of Equipment or Maintenance Problem (s) On Your Instructional Programs	Major Need	
	New or Replacement Need	Maintenance Need
Some programs had to be dropped	☐	☐
Enrollment had to be limited in some programs	☐	☐
Enrollment had to be limited institution-wide	☐	☐
Inability to update certain curricula or support courses	☐	☐
Difficulty in attracting new faculty	☐	☐
Difficulty in keeping faculty	☐	☐
Could not add new programs of instruction	☐	☐
Inconvenient schedules for use of equipment	☐	☐
Student dissatisfaction	☐	☐
Weakened support for remedial/developmental programs	☐	☐
Others (Specify:_____)	☐	☐
_____	☐	☐
_____	☐	☐

II. Total Equipment Budget

1. Enter the amount of money available at this institution* for the acquisition and maintenance of instructional equipment for all departments excluding the library (but including the learning center). Include funds from all sources (tuition and fees, normal public funding, private industry, Federal and State grants, etc.). Round to the nearest hundred dollars.

1983-84 Budget	$
1984-85 Budget	$
1985-86 Budget	$
1986-87 Institutional Budget Plan/Campus Budget Request	$

2. Indicate the percentage from each of the above budgets devoted to maintenance of instructional equipment (round to whole percents):

	Percent For Maintenance
1983-84 Budget	%
1984-85 Budget	%
1985-86 Budget	%
1986-87 Institutional Budget Plan/Campus Budget Request	%

*Or this branch, if information has been requested for branches separately.

3. Equipment Budget Allocation

Instructions: Below is a listing of instructional areas. Please indicate the approximate percentage of your institution's total instructional equipment acquisition budget, OVER THE PAST THREE YEARS (1983-1984 through 1985-1986 averaged) that was allocated to each of these areas, excluding the library. Enter "NA" if your institution does not offer instruction in a particular area.

TECHNICAL AND SCIENTIFIC CURRICULA

Code	Instruction Area*	Percent Of Equipment Budget
01	Agriculture	%
02	Biological Sciences	
03	Chemistry	
04	Communications	
05	Computer & Info. Sciences	
06	Earth Sciences	
07	Engineering	
08	Engineering Technologies	
09	Mathematics	
10	Physics	
11	Medicine	
12	Dental Hygiene	
13	Medical Lab Technologies	
14	Nursing	
15	Occupational Therapy	
16	Physical Therapy	

TECHNICAL AND SCIENTIFIC CURRICULA (CONTINUED)

Code	Instruction Area*	Percent Of Equipment Budget
17	Radiologic Technologies	
18	Speech Pathology	
19	General Academic Support (exclude library)	

NONTECHNICAL AND NONSCIENTIFIC CURRICULA

Code	Instruction Area*	Percent Of Equipment Budget
20	Architecture	%
21	Business/ Management	
22	Education	
23	Fine/Applied Arts	
24	Home Economics	
25	Literature/ Linguistics	
26	Psychology	
27	Public Affairs& Services	
28	Social Sciences/ History	
29	Other (specify): _____	
	TOTAL	100 %

*See definitions on following pages before completing.

Definitions - Areas of Instruction

1. Agriculture: includes agricultural and forestry technologies
2. Biological Sciences: includes biochemistry and biophysics, as well as the other biological sciences
3. Chemistry
4. Communications
5. Computer and Information Sciences: includes computer and data processing technologies
6. Earth Sciences: includes atmospheric sciences, geology, geochemistry, geophysics, and earth sciences
7. Engineering: baccalaureate and graduate programs in all fields of engineering
8. Engineering Technologies: Programs in engineering technologies (HEGIS 0925) leading to baccalaureate degrees; programs in engineering technologies (HEGIS 5300) leading to associate degrees or certificates
9. Mathematics
10. Physics
11. Medicine: M.D. programs, post-M.D. programs in medical specialties, osteopathic (O.D.) programs, chiropractic (D.C.) programs
12. Dental Hygiene: includes Dental Technologies. Does not include Dentistry.
13. Medical Laboratory Technologies
14. Nursing
15. Occupational Therapy
16. Physical Therapy
17. Radiologic Technologies
18. Speech Pathology: includes Audiology
19. General Academic Support: includes (but is not limited to) language laboratories, computers and computer-aided equipment to support instruction in more than one discipline, audio-visual equipment, etc. Does not include equipment for the library or equipment used only for administrative purposes. If an item (e.g., a main frame computer) will be used to support both instruction and administration, it should be included in this survey.
20. Architecture: includes Environmental Design

21. Business/Management

22. Education

23. Fine/Applied Arts: Art, Art History, Music, Dramatic Arts, Dance, Cinematography, Photography

24. Home Economics

25. Literature/Linguistics: includes Philosophy. Do not include costs of language laboratories here; include them in Area 19, General Academic Support.

26. Psychology

27. Public Affairs and Services: Community Services, Public Administration, Parks/Recreation Management, Social Work, Law Enforcement

28. Social Sciences/History: Anthropology, Archeology, Area Studies, Economics, History, Geography, Political Science, Government, Sociology, Criminology, International Relations, Cultural Studies of minority groups, Urban Studies, Demography

III. Identifying Highest Priority Equipment Needs In Scientific and Technical Areas of Instruction

From areas 1- 19 listed in item 3 on page 4, select the three that were identified through the 85-86 budget process as being the highest priority for the acquisition of new or replacement instructional equipment. For each of the three areas identified, complete the following information:

INSTRUCTION AREA 1

Code: ☐☐ Name: _____

a. Indicate the reasons for selecting this particular area as having a high priority need for new or replacement instructional equipment (check all that apply):

- Enrollment growth in field ☐
- Current equipment out of date ☐
- Current equipment in poor condition ☐
- Area is a recently initiated field of instruction at this institution ☐
- Changes of emphasis or new direction in existing area of instruction ☐
- Other (Specify:_____) ☐

b. Enter the amount identified in the budget development process (for public institutions, the campus's 1985-86 budget request) for the instructional equipment needs of this area. $ _____
(Round to nearest $100)

c. Enter the amount actually budgeted for 1985-86 for instructional equipment in this area $ _____
(Round to nearest $100)

d. Enter amount received for instructional equipment in this area in 1985-86 from noninstitutional sources such as foundations, business and industry and special funding from Federal . or State sources $ _____
(Round to nearest $100)

e. Would you consider cooperative efforts with other institutions (networking, resource sharing) for the acquisition and use of instructional equipment in this area? ☐ Yes ☐ No

INSTRUCTION AREA 2

Code: ☐☐ Name: _____

a. Indicate the reasons for selecting this particular area as having a high priority need for new or replacement instructional equipment (check all that apply):

- Enrollment growth in field ☐
- Current equipment out of date ☐
- Current equipment in poor condition ☐
- Area is a recently initiated field of instruction at this institution ☐
- Changes of emphasis or new direction in existing area of instruction ☐
- Other (Specify: _____) ☐

b. Enter the amount identified in the budget development process (for public institutions, the campus's 1985-86 budget request) for the instructional equipment needs of this area. $ _____
(Round to nearest $100)

c. Enter the amount actually budgeted for 1985-86 for instructional equipment in this area $ _____
(Round to nearest $100)

d. Enter amount received for instructional equipment in this area in 1985-86 from noninstitutional sources such as foundations, business and industry and special funding from Federal or State sources $ _____
(Round to nearest $100)

e. Would you consider cooperative efforts with other institutions (networking, resource sharing) for the acquisition and use of instructional equipment in this area? ☐ Yes ☐ No

INSTRUCTION AREA 3

Code: ☐☐ Name: _____

a. Indicate the reasons for selecting this particular area as having a high priority need for new or replacement instructional equipment (check all that apply):

- Enrollment growth in field ☐
- Current equipment out of date ☐
- Current equipment in poor condition ☐
- Area is a recently initiated field of instruction at this institution ☐
- Changes of emphasis or new direction in existing area of instruction ☐
- Other (Specify:_____) ☐

b. Enter the amount identified in the budget development process (for public institutions, the campus's 1985-86 budget request) for the instructional equipment needs of this area. $

(Round to nearest $100)

c. Enter the amount actually budgeted for 1985-86 for instructional equipment in this area $

(Round to nearest $100)

d. Enter amount received for instructional equipment in this area in 1985-86 from noninstitutional sources such as foundations, business and industry and special funding from Federal or State sources $

(Round to nearest $100)

e. Would you consider cooperative efforts with other institutions (networking, resource sharing) for the acquisition and use of instructional equipment in this area? ☐ Yes ☐ No

4. Briefly describe any budgetary restrictions placed on departments regarding the amount which could be requested for equipment replacement or acquisition in 1985-1986.

5. In the spaces below, list major equipment items which were requested, but not included in the actual 1985-86 budget for the three high priority instruction areas in part III of this form.

   For purposes of this item, major may be defined as a piece of equipment costing $5,000 or more or a series of identical pieces of equipment (e.g., 20 identical lab setups, 15 identical microcomputers, etc.) with a total cost of $5,000 or more.

Item: _____

Code: ☐☐ Area: _____

Estimated Cost (total cost, if item is a set of multiple units) . . . $ ☐

Level of Instruction (check all that apply):

2 YR. OR LESS ☐ BACC. ☐ GRAD. ☐

Item: _____

Code: ☐☐ Area: _____

Estimated Cost (total cost, if item is a set of multiple units) . . . $ ☐

Level of Instruction (check all that apply):

2 YR. OR LESS ☐ BACC. ☐ GRAD. ☐

Item: _____

Code: ☐☐ Area: _____

Estimated Cost (total cost, if item is a set of multiple units) . . . $ ☐

Level of Instruction (check all that apply):

2 YR. OR LESS ☐ BACC. ☐ GRAD. ☐

Item: _____

Code: ☐☐ Area: _____

Estimated Cost (total cost, if item is a set of multiple units) . . . $ ☐

Level of Instruction (check all that apply):

2 YR. OR LESS ☐ BACC. ☐ GRAD. ☐

(Continued on next Page)

5. Major equipment items requested (continued)

Item: _____
Code: ☐☐ Area: _____
Estimated Cost (total cost, if item is a set of multiple units) . . . $
Level of Instruction (check all that apply):
2 YR. OR LESS ☐ BACC. ☐ GRAD. ☐

Item: _____
Code: ☐☐ Area: _____
Estimated Cost (total cost, if item is a set of multiple units) . . . $
Level of Instruction (check all that apply):
2 YR. OR LESS ☐ BACC. ☐ GRAD. ☐

Item: _____
Code: ☐☐ Area: _____
Estimated Cost (total cost, if item is a set of multiple units) . . . $
Level of Instruction (check all that apply):
2 YR. OR LESS ☐ BACC. ☐ GRAD. ☐

Item: _____
Code: ☐☐ Area: _____
Estimated Cost (total cost, if item is a set of multiple units) . . . $
Level of Instruction (check all that apply):
2 YR. OR LESS ☐ BACC. ☐ GRAD. ☐

Item: _____
Code: ☐☐ Area: _____
Estimated Cost (total cost, if item is a set of multiple units) . . . $
Level of Instruction (check all that apply):
2 YR. OR LESS ☐ BACC. ☐ GRAD. ☐

Item: _____
Code: ☐☐ Area: _____
Estimated Cost (total cost, if item is a set of multiple units) . . . $
Level of Instruction (check all that apply):
2 YR. OR LESS ☐ BACC. ☐ GRAD. ☐

Item: _____
Code: ☐☐ Area: _____
Estimated Cost (total cost, if item is a set of multiple units) . . . $
Level of Instruction (check all that apply):
2 YR. OR LESS ☐ BACC. ☐ GRAD. ☐

Item: _____
Code: ☐☐ Area: _____
Estimated Cost (total cost, if item is a set of multiple units) . . . $
Level of Instruction (check all that apply):
2 YR. OR LESS ☐ BACC. ☐ GRAD. ☐

IV. Recommendations:

Following are several recommendations related to how New York State can most effectively assist in problems of unmet instructional equipment or maintenance needs. Please read the recommendations and choose the three that are, in your opinion, the most important.

In the "other" category, please feel free to make any suggestions for government activity that would enhance the cause for support of instructional equipment and maintenance funding.

1. Establish substantial grant program(s) for acquisition of instructional equipment by public and independent postsecondary institutions
2. Increase the budget allocations for instructional equipment at public institutions to more closely match institutional requests
3. Encourage equipment donations or loans by business and industry through changes in tax policy
4. Build maintenance funds into acquisition grant programs
5. Establish a dedicated revenue stream via more pooled bonding issues like the Dormitory Authority's 1985 Educational Equipment and Short-Term Capital Projects
6. Dedicate a portion of the public universities' tuition and fees revenues
7. Other (Specify):

	Recommendation Item Number
Most Important	☐
Second Most Important	☐
Third Most Important	☐

V. Comments:

Please add any comments which you might have concerning your institution's budgeting process, needs for acquisition and/ or maintenance of instructional equipment, cooperative efforts with other institutions or with business/industry to meet these needs, or further comment concerning any item on this survey:

APPENDIX B

Technical Information

1. Instructional Areas Included in the Survey

The instructional areas included in the survey are listed and defined on pages 5 and 6 of the form (Appendix A). More specifically, instruction in the following Higher Education General Information Survey (HEGIS) codes was included in the "Scientific and Technical Areas":

Scientific and Technical Areas

Survey Code for Area	HEGIS Classification	Name of Area
01	0101–99	Agriculture and Natural Resources
	5402–03	Agriculture, Forestry, and Wildlife Technologies
02	0401–99	Biological Sciences
03	1905–10	Chemistry
04	0601–99	Communications
05	0701–99	Computer and Information Sciences
	5101–99	Data Processing Technologies
06	1913–17	Atmospheric Sciences and Meteorology, Geology, Geochemistry, Geophysics and Seismology, Earth Sciences
07	0901–24; 0999	Engineering
08	0925	Engineering Technologies (baccalaureate)
	5301–99	Mechanical and Engineering Technologies
09	1701–99	Mathematics
10	1901–04	Physics
11	1206–07	Medicine, M.D. and Medical Specialties
	1210,1216,1221	Osteopathic Medicine, Podiatry, Chiropractic
12	1213,1224, 5202–04	Dental Hygiene, Dental Technologies
13	1223	Medical Laboratory Technologies
	5205,5211–12 5215,5217	Surgical Technologies, Optical Technologies, Inhalation Therapy Technologies, Electro-diagnostic Technologies
14	1203, 5208–09	Nursing (R.N. and L.P.N.)
15	1208	Occupational Therapy
	5210	Occupational Therapy Technologies
16	1212	Physical Therapy
	5219	Physical Therapy Technologies
17	1225, 5207	Radiologic Technologies
18	1220	Speech Pathology

Certain health professions were not included; for example, those that are primarily administrative (hospital administration, medical librarianship). Dentistry was excluded because the four dental schools in the State have received separate attention to their funding needs in recent State budgets; optometry, pharmacy, and veterinary medicine were excluded as highly specialized fields of study offered by only one or a very few New York institutions. Institutions offering courses of study in these health professions were included in the survey, with the option of giving information on Parts I and II.

The percentages of FTE enrollment represented by the responding campuses, as presented in the first section of the report, were calculated on the basis of fall 1985 enrollment in the following HEGIS major-mission areas: 0100, agriculture; 0400, biological sciences; 0600, communications; 0700, computer and information sciences; 0900, engineering and baccalaureate-level engineering technology; 1200, health professions; 1700, mathematics; 1900, physical sciences; 5100, data processing technologies; 5200, health services and paramedical technologies; 5300, mechanical and engineering technologies; and 5400, natural science technologies.

2. Highest-Priority Instructional Areas for Equipment Acquisition (Part III of Survey Form)

The campuses surveyed were asked to complete this section if they indicated on question I.1 that the need for new or replacement instructional equipment was a problem. Of 139 campuses that indicated such a problem, 131 identified at least one scientific, technical, or general academic support area as having highest priority for the acquisition of instructional equipment (54 campuses of State University, 16 of City University, and 61 independent campuses); 73 identified three such areas. (Thirty-eight campuses identified at least one nontechnical, nonscientific high-priority area, as defined on pages 4 through 6 of the survey form [Appendix A]. Since the focus of the current survey project was on scientific and technical instruction and general academic support, these results are not included in the summary.)

Table B-1 shows the number of times each area was selected as a campus's first, second, or third high-priority area on Part III of the survey.

Table B-1

Areas in Order of Frequency Chosen

Area	Frequency*			
	ALL (N=131)	SUNY (N=54)	CUNY (N=16)	INDEPENDENT (N=61)
General Academic Support	59	22	9	28
Computer & Information Science	58	24	9	25
Biological Sciences	46	17	6	23
Engineering Technologies	34	25	3	6
Chemistry	29	9	3	17
Engineering	18	5	2	11
Communications	17	8	0	9
Nursing	12	4	2	6
Physics	11	5	3	3
Medical Lab. Technologies	7	3	2	2
Medicine	6	3	0	3
Agriculture	4	4	0	0
Mathematics	3	0	1	2
Physical Therapy	3	0	0	3
Speech Pathology	2	0	1	1
Dental Hygiene	1	1	0	0
Earth Science	0	0	0	0
Occupational Therapy	0	0	0	0
Radiologic Technologies	0	0	0	0

* As choice 1, 2, *or* 3 on Part III.

Engineering technology was identified primarily by State University campuses (25 out of the total of 34 campuses choosing this area); agriculture, exclusively by State University campuses. It is notable that engineering was identified as a high-priority area for instructional equipment acquisition by more than 60 percent of the 27 institutions in New York State offering engineering programs—18 campuses (17 institutions and one branch campus). No campus identified earth science, occupational therapy, or radiologic technologies as a high-priority area.

3. Institutions Included in the Survey*

State University of New York	Responded		Data for Part III:	
	Yes	No	Yes	No
University Centers				
SUNY Albany	X			X
Binghamton	X			X
Buffalo	X		X	
Buffalo Health Sciences Center**	(X)		(X)	
Stony Brook	X		X	
Stony Brook Health Sciences Center	X			X
Health Sciences Centers				
SUNY H.S.C.—Brooklyn	X		X	
SUNY H.S.C.—Syracuse	X		X	
State University Colleges				
College at Brockport	X		X	
Buffalo		X		
Cortland	X		X	
Fredonia	X			X
Geneseo	X		X	
New Paltz		X		
Old Westbury	X		X	
Oneonta	X			X
Oswego		X		
Plattsburgh	X		X	
Potsdam	X			X
Purchase	X		X	
Specialized Colleges				
N.Y.S. College of Environmental Science and Forestry		X		
College of Technology at Utica/Rome		X		
Maritime College	X		X	
College of Optometry		X		

* Where no branch campus is listed, only the main campus was included in the survey.

** Combined with main campus. (Data for Part III not calculated separately.)

3. Institutions Included in the Survey (continued)

State University of New York (continued)	Responded		Data for Part III:	
	Yes	No	Yes	No
Statutory Colleges				
N.Y.S. College of Agriculture and Life Sciences	X		X	
N.Y.S. College of Human Ecology	X			X
N.Y.S. School of Industrial and Labor Relations	X			X
N.Y.S. College of Veterinary Medicine	X			X
N.Y.S. College of Ceramics	X		X	
Colleges of Agriculture and Technology				
College of Technology at Alfred-Main	X		X	
College of Tech. at Alfed-Wellsville Branch Campus	X		X	
College of Technology at Canton	X		X	
College of Agriculture and Technology at Cobleskill	X		X	
College of Technology at Delhi	X		X	
College of Technology at Farmingdale	X			X
College of Agriculture and Technology at Morrisville	X		X	
Community Colleges				
Adirondack Community College	X		X	
Broome Community College		X		
Cayuga County Community College	X		X	
Clinton Community College		X		
Columbia-Greene Community College		X		
Community College of the Finger Lakes	X		X	
Corning Community College	X		X	
Dutchess Community College	X		X	
Erie Community College-North (Main)	X		X	
Erie Community College-City	X			X
Erie Community College-South	X		X	
Fashion Institute of Technology	X		X	
Fulton-Montgomery Community College	X		X	
Genesee Community College	X		X	
Herkimer County Community College	X		X	
Hudson Valley Community College	X		X	
Jamestown Community College-Main	X		X	
Jamestown C.C.-Olean Branch*	(X)		(X)	
Jefferson Community College	X		X	

* Combined with main campus. (Data for Part III not calculated separately.)

3. Institutions Included in the Survey (continued)

State University of New York (continued)	Responded		Data for Part III:	
	Yes	No	Yes	No
Community Colleges (Continued)				
Mohawk Valley Community College	X		X	
Mohawk Valley C.C.-Rome Branch	X		X	
Monroe Community College	X		X	
Nassau Community College	X		X	
Niagara County Community College		X		
North Country Community College-Main	X		X	
North Country C.C.-Elizabethtown*	(X)		(X)	
North Country C.C.-Malone*	(X)		(X)	
North Country C.C.-Ticonderoga*	(X)		(X)	
Onondaga Community College	X		X	
Orange County Community College	X		X	
Rockland Community College	X		X	
Schenectady County Community College	X		X	
Suffolk County Community College-Main	X		X	
Suffolk County C.C.-Eastern	X		X	
Suffolk County C.C.-Western	X		X	
Sullivan County Community College	X		X	
Tompkins-Cortland Community College	X		X	
Ulster County Community College		X		
Westchester Community College	X		X	
The City University of New York				
Senior Colleges				
Bernard M. Baruch College	X			X
Brooklyn College	X		X	
The City College	X		X	
The College of Staten Island	X		X	
Herbert H. Lehman College	X		X	
Hunter College	X		X	
John Jay College of Criminal Justice	X		X	
New York City Technical College-Main	X		X	
New York City Tech. College-Voorhees Branch		X		
Queens College	X		X	
York College	X		X	
Community Colleges				
Borough of Manhattan Community College	X		X	
Bronx Community College	X		X	
Eugenio Maria deHostos Community College	X		X	
Fiorello H. LaGuardia Community College	X		X	
Kingsborough Community College	X		X	
Medgar Evers College	X		X	
Queensborough Community College	X		X	

* Combined with main campus. (Data for Part III not calculated separately.)

3. Institutions Included in the Survey (continued)

	Responded		Data for Part III:	
	Yes	No	Yes	No
Independent Institutions				
Multiversities				
Columbia University	X		X	
Cornell University-Endowed Colleges	X		X	
Cornell University Medical College		X		
New York University		X		
Syracuse University-Main	X		X	
Utica College of Syracuse University	X		X	
Syracuse University–Corning Graduate Center		X		
Syracuse University–Endicott-Owego Graduate Center		X		
Syracuse University–Graduate Center at Rome		X		
Syracuse University–Mid-Hudson Graduate Center		X		
University of Rochester		X		
Universities				
Adelphi University		X		
Fordham University		X		
Hofstra University	X		X	
Long Island University:				
Brentwood Campus	X		X	
Brooklyn Campus		X		
C.W. Post Campus	X		X	
Rockland Campus	X		X	
Southampton Campus	X		X	
Westchester Campus	X		X	
St. John's University–Main		X		
St. John's University-Staten Island Branch		X		
Yeshiva University	X		X	
College Complexes				
Alfred University–Main	X		X	
Alfred University–Rochester Branch	X		X	
Barnard College	X		X	
Canisius College	X		X	
Colgate University	X		X	
D'Youville College	X			X
The Elmira College	X		X	
Hamilton College	X			X

3. Institutions Included in the Survey (continued)

Independent Institutions (continued)	Responded		Data for Part III:	
	Yes	No	Yes	No
College Complexes (continued)				
Hartwick College		X		
Hobart and William Smith Colleges		X		
Iona College	X		X	
Iona College–Rockland Branch*	(X)		(X)	
Ithaca College	X		X	
LeMoyne College	X		X	
Manhattan College	X		X	
Manhattanville College		X		
New School for Social Research	X		X	
Niagara University		X		
Pace University–Main	X		X	
Pace University–Pleasantville Branch	X		X	
Pace University–White Plains Branch	X		X	
Russell Sage College		X		
Russell Sage College-Junior College of Albany	X			X
St. Bonaventure University	X		X	
St. Lawrence University	X			X
Sarah Lawrence College		X		
Skidmore College	X		X	
Union College–Main	X		X	
Union College–Poughkeepsie Branch	X			X
Vassar College	X			X
Wagner College		X		
Wells College		X		
Colleges				
Bard College		X		
Boricua College		X		
College of Mt. St. Vincent		X		
The College of New Rochelle–Main	X			X
The College of New Rochelle–Co-Op City Branch	X			X
The College of New Rochelle–District Council 37 Branch	X			X
The College of New Rochelle–South Bronx Branch	X			X
The College of New Rochelle–Brooklyn Branch	X			X
The College of New Rochelle–New York Theological Seminary Branch	X			X
College of St. Rose		X		
Concordia College	X		X	
Daemen College	X		X	
Dominican College of Blauvelt	X		X	
Dowling College		X		
Houghton College–Main	X		X	
Houghton College–Buffalo Branch		X		

* Combined with main campus. (Data for Part III not calculated separately.)

3. Institutions Included in the Survey (continued)

Independent Institutions (continued)	Responded Yes	Responded No	Data for Part III: Yes	Data for Part III: No
Colleges (continued)				
Keuka College	X			X
The King's College		X		
Marist College	X		X	
Marymount College	X		X	
Marymount Manhattan College		X		
Medaille College	X		X	
Mercy College–Main		X		
Mercy College Branches: Bronx		X		
Peekskill		X		
White Plains		X		
Yonkers		X		
Yorktown Heights		X		
Molloy College	X		X	
Mt. St. Mary College	X		X	
Nazareth College of Rochester		X		
Nyack College	X		X	
Roberts Wesleyan College		X		
St. Francis College	X			X
St. John Fisher College	X		X	
St. Joseph's College–Main		X		
St. Joseph's College-Suffolk Branch		X		
St. Thomas Aquinas College		X		
Siena College		X		
Touro College		X		
Specialized College				
Teachers College	X		X	
Engineering-Technical				
Clarkson University	X		X	
Cooper Union		X		
New York Institute of Technology–Main	X		X	
New York Institute of Technology–Metropolitan Center Branch	X		X	
New York Institute of Technology–Central Islip Branch	X		X	
Polytechnic University–Main	X		X	
Polytechnic University–Long Island Branch*	(X)		(X)	
Polytechnic University–Westchester Branch*	(X)		(X)	
Pratt Institute–Main		X		
Pratt Institute–Manhattan Center Branch		X		
Rensselaer Polytechnic Institute		X		
Rochester Institute of Technology	X		X	
Webb Institute of Naval Architecture		X		

* Combined with main campus. (Data for Part III not calculated separately.)

3. Institutions Included in the Survey (continued)

Independent Institutions (continued)	Responded		Data for Part III:	
	Yes	No	Yes	No
Health Sciences Centers				
Albany College of Pharmacy		X		
Albany Medical College		X		
Mt. Sinai School of Medicine	X			X
New York Chiropractic College		X		
New York College of Podiatric Medicine	X		X	
New York Medical College	X			X
Rockefeller University	X			X
Nursing Schools				
Catholic Medical Center of Brooklyn and Queens, Inc., School of Nursing		X		
Cochran School of Nursing	X			X
Edna McConnell Clark School of Nursing	X			X
Helene Fuld School of Nursing	X			X
Interfaith Medical Center School of Nursing	X		X	
Long Island College Hospital School of Nursing	X			X
Phillips Beth Israel School of Nursing	X			X
Two-Year Institutions				
Bramson ORT Technical Institute		X		
Cazenovia College		X		
College of Aeronautics**	X		X	
Elizabeth Seton College – Main		X		
Elizabeth Seton College – Weekend Division Branch		X		
Hilbert College	X		X	
Institute of Design and Contruction	X			X
Malcolm King: Harlem College Extension		X		
Maria College of Albany		X		
Maria Regina College	X			X
Mater Dei College	X		X	
Paul Smith's College	X			X
Trocaire College	X		X	
Villa Maria College of Buffalo	X		X	

** Began offering a baccalaureate program in 1987-88 academic year; counted among two-year institutions in this study.

APPENDIX C

The University Of The State Of New York
THE STATE EDUCATION DEPARTMENT
Bureau of Postsecondary Planning
Cultural Education Center Room 5B44
Albany, New York 12230

SUMMARY: ALL

I. Overview: Instructional Equipment Acquisition and Maintenance *

1. Is the need for new or replacement instructional equipment a problem in your institution? ..... 90% (139) Yes; 10% (15) No

If yes, indicate the instructional areas in which it is a problem, the severity of the problem and how long it has been a problem:

Instructional Area	Severity of the Problem		Number of Years Problem has Existed			
	Moderate	Severe	One Year	2 - 5 Years	6 - 10 Years	More than Ten Years
Technical and Scientific Curricula	28% (43)	57% (87)	2% (3)	34% (52)	29% (45)	19% (29)
Nontechnical, Nonscientific Curricula	57% (87)	18% (27)	2% (3)	39% (60)	21% (33)	10% (15)
Library	42% (65)	27% (42)	3% (4)	31% (47)	25% (38)	10% (16)
Other General Academic Support (learning labs, computer centers, audio-video centers etc.)	35% (54)	46% (70)	1% (2)	47% (73)	19% (29)	12% (18)

2.. Is the need for maintenance of instructional equipment a problem in your institution? ..... 73% (113) Yes; 26% (41) No

If yes, indicate the instructional areas in which it is a problem, the severity of the problem and how long it has been a problem:

Instructional Area	Severity of the Problem		Number of Years Problem has Existed			
	Moderate	Severe	One Year	2 - 5 Years	6 - 10 Years	More than Ten Years
Technical and Scientific Curricula	26% (40)	46% (71)	1% (2)	34% (52)	23% (35)	13% (20)
Nontechnical, Nonscientific Curricula	44% (68)	16% (25)	3% (5)	35% (54)	13% (20)	8% (13)
Library	38% (59)	21% (32)	3% (5)	30% (46)	17% (26)	8% (12)
Other General Academic Support (learning labs, computer centers, audio-video centers etc.)	30% (46)	38% (58)	2% (3)	40% (61)	16% (25)	9% (14)

* For 111 respondents both I.1 and I.2 were a problem. For 13 respondents, neither was a problem.

SUMMARY
ALL THAT CHECKED "YES" on EITHER I.1 or I.2 (N=141)

Instructions For Completing The Remainder Of This Survey

If you answered NO to both items 1 and 2 on the previous page, stop here and return the survey.

If the answer was NO to item 1 and YES to item 2, complete the survey through Section II only and return the survey.

Complete the entire survey if the answer to item one was YES.

3. If either the need for instructional equipment or maintenance of instructional equipment is a problem, indicate the effects of the problem on instruction (check all that apply):

Effect (s) of Equipment or Maintenance Problem (s) On Your Instructional Programs	Major Need: New or Replacement Need		Major Need: Maintenance Need	
Some programs had to be dropped	10	7%	6	4%
Enrollment had to be limited in some programs	83	59%	43	31%
Enrollment had to be limited institution-wide	9	6%	6	4%
Inability to update certain curricula or support courses	130	92%	58	41%
Difficulty in attracting new faculty	68	48%	27	19%
Difficulty in keeping faculty	57	40%	28	20%
Could not add new programs of instruction	91	65%	32	23%
Inconvenient schedules for use of equipment	110	78%	57	40%
Student dissatisfaction	101	72%	72	51%
Weakened support for remedial/developmental programs	73	52%	35	25%
Others (Specify:_____)	19	14%	10	7%
_____	8	6%	3	2%
_____	6	4%	3	2%
One effect:	3		18	
Two effects:	8		11	
3 to 5 effects:	33		26	
5 or more effects:	91		38	

The University Of The State Of New York
THE STATE EDUCATION DEPARTMENT
Bureau of Postsecondary Planning
Cultural Education Center Room 5B44
Albany, New York 12230

SUMMARY: SUNY

I. Overview: Instructional Equipment Acquisition and Maintenance*

1. Is the need for new or replacement instructional equipment a problem in your institution? ..... 98% (58) Yes; 2% (1) No

If yes, indicate the instructional areas in which it is a problem, the severity of the problem and how long it has been a problem:

Instructional Area	Severity of the Problem		Number of Years Problem has Existed			
	Moderate	Severe	One Year	2 - 5 Years	6 - 10 Years	More than Ten Years
Technical and Scientific Curricula	29% (17)	66% (39)	0	32% (19)	37% (22)	25% (15)
Nontechnical, Nonscientific Curricula	70% (41)	19% (11)	2% (1)	49% (29)	22% (13)	12% (7)
Library	49% (29)	31% (18)	3% (2)	25% (15)	36% (21)	15% (9)
Other General Academic Support (learning labs, computer centers, audio-video centers etc.)	36% (21)	58% (34)	0	51% (30)	25% (15)	17% (10)

2.. Is the need for maintenance of instructional equipment a problem in your institution? ..... 92% (54) Yes; 8% (5) No

If yes, indicate the instructional areas in which it is a problem, the severity of the problem and how long it has been a problem:

Instructional Area	Severity of the Problem		Number of Years Problem has Existed			
	Moderate	Severe	One Year	2 - 5 Years	6 - 10 Years	More than Ten Years
Technical and Scientific Curricula	20% (12)	68% (40)	0	37% (22)	31% (18)	20% (12)
Nontechnical, Nonscientific Curricula	53% (31)	24% (14)	3% (2)	39% (23)	20% (12)	12% (7)
Library	46% (27)	29% (17)	2% (1)	32% (19)	27% (16)	12% (7)
Other General Academic Support (learning labs, computer centers, audio-video centers etc.)	29% (17)	56% (33)	2% (1)	39% (23)	29% (17)	17% (10)

*For 53 SUNY respondents, both I.1 and I.2 were a problem. No SUNY respondents said that neither was a problem.

SUMMARY

SUNY N=59

Instructions For Completing The Remainder Of This Survey

If you answered NO to both items 1 and 2 on the previous page, stop here and return the survey.

If the answer was NO to item 1 and YES to item 2, complete the survey through Section II only and return the survey.

Complete the entire survey if the answer to item one was YES.

3. If either the need for instructional equipment or maintenance of instructional equipment is a problem, indicate the effects of the problem on instruction (check all that apply):

Effect (s) of Equipment or Maintenance Problem (s) On Your Instructional Programs	Major Need: New or Replacement Need		Major Need: Maintenance Need	
Some programs had to be dropped	4	7%	1	2%
Enrollment had to be limited in some programs	41	70%	23	39%
Enrollment had to be limited institution-wide	3	5%	1	2%
Inability to update certain curricula or support courses	56	95%	29	49%
Difficulty in attracting new faculty	25	42%	10	17%
Difficulty in keeping faculty	27	46%	11	19%
Could not add new programs of instruction	41	70%	12	20%
Inconvenient schedules for use of equipment	48	81%	26	44%
Student dissatisfaction	44	75%	38	64%
Weakened support for remedial/developmental programs	32	54%	15	25%
Others (Specify: _____)	8	14%	7	12%
_____	6	10%	3	5%
_____	3	5%	0	
One effect:	2		10	
Two effects:	1		7	
3 to 5 effects:	15		16	
5 or more effects:	40		16	

The University Of The State Of New York
THE STATE EDUCATION DEPARTMENT
Bureau of Postsecondary Planning
Cultural Education Center Room 5B44
Albany, New York 12230

SUMMARY: CUNY

I. Overview: Instructional Equipment Acquisition and Maintenance*

1. Is the need for new or replacement instructional equipment a problem in your institution? . . . . . .

Yes	No
94% (16)	6% (1)

If yes, indicate the instructional areas in which it is a problem, the severity of the problem and how long it has been a problem:

Instructional Area	Severity of the Problem		Number of Years Problem has Existed			
	Moderate	Severe	One Year	2 - 5 Years	6 - 10 Years	More than Ten Years
Technical and Scientific Curricula	18% (3)	77% (13)	12% (2)	12% (2)	41% (7)	29% (5)
Nontechnical, Nonscientific Curricula	71% (12)	18% (3)	6% (1)	41% (7)	24% (4)	18% (3)
Library	29% (5)	53% (9)	6% (1)	41% (7)	24% (4)	12% (2)
Other General Academic Support (learning labs, computer centers, audio-video centers etc.)	29% (5)	53% (9)	0	41% (7)	29% (5)	12% (2)

2.. Is the need for maintenance of instructional equipment a problem in your institution? . . . . . .

Yes	No
82% (14)	18% (3)

If yes, indicate the instructional areas in which it is a problem, the severity of the problem and how long it has been a problem:

Instructional Area	Severity of the Problem		Number of Years Problem has Existed			
	Moderate	Severe	One Year	2 - 5 Years	6 - 10 Years	More than Ten Years
Technical and Scientific Curricula	12% (2)	71% (12)	6% (1)	24% (4)	29% (5)	24% (4)
Nontechnical, Nonscientific Curricula	41% (7)	29% (5)	12% (2)	35% (6)	18% (3)	6% (1)
Library	18% (3)	53% (9)	6% (1)	41% (7)	18% (3)	6% (1)
Other General Academic Support (learning labs, computer centers, audio-video centers etc.)	12% (2)	65% (11)	0	53% (9)	18% (3)	6% (1)

*For 13 respondents, both I.1 and I.2 were a problem; no respondent from the City University reported that neither was a problem.

SUMMARY

CUNY N=17 ***Instructions For Completing The Remainder Of This Survey***

If you answered NO to both items 1 and 2 on the previous page, stop here and return the survey.

If the answer was NO to item 1 and YES to item 2, complete the survey through Section II only and return the survey.

Complete the entire survey if the answer to item one was YES.

3. If either the need for instructional equipment or maintenance of instructional equipment is a problem, indicate the effects of the problem on instruction (check all that apply):

Effect (s) of Equipment or Maintenance Problem (s) On Your Instructional Programs	Major Need: New or Replacement Need	Major Need: Maintenance Need
Some programs had to be dropped	3 18%	4 24%
Enrollment had to be limited in some programs	10 59%	8 47%
Enrollment had to be limited institution-wide	1 6%	1 6%
Inability to update certain curricula or support courses	15 88%	8 47%
Difficulty in attracting new faculty	9 53%	3 18%
Difficulty in keeping faculty	5 29%	5 29%
Could not add new programs of instruction	13 77%	5 29%
Inconvenient schedules for use of equipment	10 59%	6 35%
Student dissatisfaction	13 77%	10 59%
Weakened support for remedial/developmental programs	12 71%	7 41%
Others (Specify:_____)	2 12%	2 12%
_____	0	0
_____	0	0
One effect:	1	2
Two effects:	0	1
3 to 5 effects:	3	2
5 or more effects:	12	7

The University Of The State Of New York
THE STATE EDUCATION DEPARTMENT
Bureau of Postsecondary Planning
Cultural Education Center Room 5B44
Albany, New York 12230

SUMMARY: INDEPENDENT

I. Overview: Instructional Equipment Acquisition and Maintenance*

1. Is the need for new or replacement instructional equipment a problem in your institution? . . . . . 83% (65) Yes; 17% (13) No

If yes, indicate the instructional areas in which it is a problem, the severity of the problem and how long it has been a problem:

Instructional Area	Severity of the Problem		Number of Years Problem has Existed			
	Moderate	Severe	One Year	2 - 5 Years	6 - 10 Years	More than Ten Years
Technical and Scientific Curricula	30% (23)	45% (35)	1% (1)	40% (31)	21% (16)	12% (9)
Nontechnical, Nonscientific Curricula	44% (34)	17% (13)	1% (1)	31% (24)	21% (16)	6% (5)
Library	40% (31)	19% (15)	1% (1)	32% (25)	17% (13)	6% (5)
Other General Academic Support (learning labs, computer centers, audio-video centers etc.)	36% (28)	35% (27)	3% (2)	46% (36)	12% (9)	8% (6)

2.. Is the need for maintenance of instructional equipment a problem in your institution? . . . . . 58% (45) Yes; 41% (32) No

If yes, indicate the instructional areas in which it is a problem, the severity of the problem and how long it has been a problem:

Instructional Area	Severity of the Problem		Number of Years Problem has Existed			
	Moderate	Severe	One Year	2 - 5 Years	6 - 10 Years	More than Ten Years
Technical and Scientific Curricula	33% (26)	24% (19)	1% (1)	33% (26)	15% (12)	5% (4)
Nontechnical, Nonscientific Curricula	39% (30)	8% (6)	1% (1)	32% (25)	6% (5)	6% (5)
Library	37% (29)	8% (6)	4% (3)	26% (20)	9% (7)	5% (4)
Other General Academic Support (learning labs, computer centers, audio-video centers etc.)	35% (27)	18% (14)	3% (2)	37% (29)	6% (5)	4% (3)

*For 45 respondents, both I.1 and I.2 were a problem; for 13 respondents in the independent sector, neither was a problem.

SUMMARY

INDEPENDENT N=65

Instructions For Completing The Remainder Of This Survey

If you answered NO to both items 1 and 2 on the previous page, stop here and return the survey.

If the answer was NO to item 1 and YES to item 2, complete the survey through Section II only and return the survey.

Complete the entire survey if the answer to item one was YES.

3. If either the need for instructional equipment or maintenance of instructional equipment is a problem, indicate the effects of the problem on instruction (check all that apply):

Effect (s) of Equipment or Maintenance Problem (s) On Your Instructional Programs	Major Need: New or Replacement Need		Major Need: Maintenance Need	
Some programs had to be dropped	3	5%	1	2%
Enrollment had to be limited in some programs	32	49%	12	19%
Enrollment had to be limited institution-wide	5	8%	4	6%
Inability to update certain curricula or support courses	59	91%	21	32%
Difficulty in attracting new faculty	34	52%	14	22%
Difficulty in keeping faculty	25	39%	12	19%
Could not add new programs of instruction	37	57%	15	23%
Inconvenient schedules for use of equipment	52	80%	25	39%
Student dissatisfaction	44	68%	24	37%
Weakened support for remedial/developmental programs	29	45%	13	20%
Others (Specify:_____)	11	17%	3	5%
_____	2	3%	1	2%
_____	1	2%	0	
One effect:	0		6	
Two effects:	7		3	
3 to 5 effects:	15		8	
5 or more effects:	39		15	

SUMMARY

ALL that checked "Yes" on I.1 or I.2. (N = 141)

II. Total Equipment Budget

1. Enter the amount of money available at this institution* for the acquisition and maintenance of instructional equipment for all departments excluding the library (but including the learning center). Include funds from all sources (tuition and fees, normal public funding, private industry, Federal and State grants, etc.). Round to the nearest hundred dollars.

1983-84 Budget	$	See below**
1984-85 Budget	$	
1985-86 Budget	$ Mean $150/FTES (Range: $0 to $2,463/FTES)	
1986-87 Institutional Budget Plan/Campus Budget Request	$	

2. Indicate the percentage from each of the above budgets devoted to maintenance of instructional equipment (round to whole percents):

		Percent For Maintenance	
N = 108	1983-84 Budget	Mean 18.5 %	Range Ø - 100
Increased,* 1984-87: 48(44%)			
No change: 38(35%)	1984-85 Budget	Mean 20.6 %	
Decreased*:22(21%)			
*By more than 2 percentage points	1985-86 Budget	Mean 20.5 %	
	1986-87 Institutional Budget Plan/Campus Budget Request	Mean 22.1 %	

*Or this branch, if information has been requested for branches separately.

**II.1. Change, 1983-84 to 1986-87:
N = 124 respondents for which data were reported.
Increased*: 72(58%)
No Change: 9(7%)
Decreased*: 43(35%)
*By more than 5 percent.

**II.1. Change, 1985-86 to 1986-87:
N = 128 respondents for which data were reported.
Increased*: 65(51%)
No Change: 8(6%)
Decreased*: 55(43%)
*By more than 2 percent.

SUMMARY 76

ALL - that checked "yes" on I.1 or I.2 (N= 141)

3. Equipment Budget Allocation

Instructions: Below is a listing of instructional areas. Please indicate the approximate percentage of your institution's total instructional equipment acquisition budget, OVER THE PAST THREE YEARS (1983-1984 through 1985-1986 averaged) that was allocated to each of these areas, excluding the library. Enter "NA" if your institution does not offer instruction in a particular area.

TECHNICAL AND SCIENTIFIC CURRICULA

#	Max.	Code	Instruction Area*	MEAN Percent Of Equipment Budget
10	85	01	Agriculture	16.4 %
108	47	02	Biological Sciences	8.3
106	40	03	Chemistry	5.8
72	24	04	Communications	4.5
99	90	05	Computer & Info. Sciences	19.6
50	17	06	Earth Sciences	2.7
19	70	07	Engineering	27.6
44	100	08	Engineering Technologies	24.9
110	13	09	Mathematics	1.4
100	21	10	Physics	3.2
8	98	11	Medicine	47.6
14	9	12	Dental Hygiene	1.3
49	16	13	Medical Lab Technologies	1.8
63	100	14	Nursing	6.9
14	3	15	Occupational Therapy	0.8
18	10	16	Physical Therapy	2.3

TECHNICAL AND SCIENTIFIC CURRICULA (CONTINUED)

Code	Instruction Area*	MEAN Percent Of Equipment Budget	#	Max.
17	Radiologic Technologies	3.6	14	28
18	Speech Pathology	2.1	18	7
19	General Academic Support (exclude library)	23.2	122	100

NONTECHNICAL AND NONSCIENTIFIC CURRICULA

Code	Instruction Area*	Percent Of Equipment Budget		
20	Architecture	0.6 %	12	2
21	Business/ Management	8.3	107	62
22	Education	2.4	77	30
23	Fine/Applied Arts	6.3	89	50
24	Home Economics	8.9	13	100
25	Literature/ Linguistics	1.0	106	8
26	Psychology	1.6	110	20
27	Public Affairs& Services	1.0	78	33
28	Social Sciences/ History	1.5	113	50
29	Other (specify): _____	10.6	47	100
	TOTAL	100 %		

*See definitions on following pages before completing.

SUMMARY

SUNY (N= 59)

II. Total Equipment Budget

1. Enter the amount of money available at this institution* for the acquisition and maintenance of instructional equipment for all departments excluding the library (but including the learning center). Include funds from all sources (tuition and fees, normal public funding, private industry, Federal and State grants, etc.). Round to the nearest hundred dollars.

1983-84 Budget	$	See below**
1984-85 Budget	$	
1985-86 Budget (Range = $11 to $1,383)	$ Mean $165/FTES	
1986-87 Institutional Budget Plan/Campus Budget Request	$	

2. Indicate the percentage from each of the above budgets devoted to maintenance of instructional equipment (round to whole percents):

N=52
Change, 1984-87:
Increased:* 23 (44%)
No change: 16 (31%)
Decreased:* 13 (25%)

*By more than 2 percentage points.

	Percent For Maintenance	
1983-84 Budget	Mean 22.1 %	Range = 0 to 100
1984-85 Budget	Mean 24.9 %	
1985-86 Budget	Mean 25.1 %	
1986-87 Institutional Budget Plan/Campus Budget Request	Mean 24.6 %	

*Or this branch, if information has been requested for branches separately.

**II.1 Change, 1983-84 to 1986-87:
N=57 SUNY respondents giving figures for both years.
Increased:* 28 (49%)
No change: 5 (9%)
Decreased:* 24 (42%)

*By more than 5 percent.

** Change, 1985-86 to 1986-87:
N=56 SUNY respondents giving figures for both years
Increased:* 27 (48%)
No change: 5 (9%)
Decreased:* 24 (43%)

*By more than 2 percent.

SUMMARY
SUNY

3. Equipment Budget Allocation

Instructions: Below is a listing of instructional areas. Please indicate the approximate percentage of your institution's total instructional equipment acquisition budget, OVER THE PAST THREE YEARS (1983-1984 through 1985-1986 averaged) that was allocated to each of these areas, excluding the library. Enter "NA" if your institution does not offer instruction in a particular area.

TECHNICAL AND SCIENTIFIC CURRICULA

#	Max.	Code	Instruction Area*	MEAN Percent Of Equipment Budget
8	85	01	Agriculture	15.5 %
47	25	02	Biological Sciences	6.4
46	29	03	Chemistry	4.5
27	18	04	Communications	4.8
43	90	05	Computer & Info. Sciences	16.4
23	12	06	Earth Sciences	3.3
5	70	07	Engineering	24.4
34	100	08	Engineering Technologies	25.9
48	13	09	Mathematics	1.5
45	11	10	Physics	3.0
4	86	11	Medicine	61.8
12	9	12	Dental Hygiene	1.3
28	16	13	Medical Lab Technologies	1.8
34	10	14	Nursing	2.2
7	2	15	Occupational Therapy	0.7
9	7	16	Physical Therapy	1.8

TECHNICAL AND SCIENTIFIC CURRICULA (CONTINUED)

Code	Instruction Area*	MEAN Percent Of Equipment Budget	#	Max.
17	Radiologic Technologies	0.4	7	1
18	Speech Pathology	4.4	5	7
19	General Academic Support (exclude library)	16.5	50	62

NONTECHNICAL AND NONSCIENTIFIC CURRICULA

Code	Instruction Area*	MEAN Percent Of Equipment Budget	#	Max.
20	Architecture	0.33 %	3	1
21	Business/ Management	11.8	46	50
22	Education	1.7	22	8
23	Fine/Applied Arts	8.2	37	60
24	Home Economics	16.0	7	100
25	Literature/ Linguistics	0.7	42	5
26	Psychology	0.8	43	5
27	Public Affairs& Services	1.1	37	5
28	Social Sciences/ History	1.9	46	50
29	Other (specify): _____	11.7	26	100
	TOTAL	100 %		

*See definitions on following pages before completing.

SUMMARY

SUNY State-Operated Campuses (N=29)

II. Total Equipment Budget

1. Enter the amount of money available at this institution* for the acquisition and maintenance of instructional equipment for all departments excluding the library (but including the learning center). Include funds from all sources (tuition and fees, normal public funding, private industry, Federal and State grants, etc.). Round to the nearest hundred dollars.

1983-84 Budget	$
1984-85 Budget	$
1985-86 Budget	$ Mean $233/FTES
1986-87 Institutional Budget Plan/Campus Budget Request	$

See below**

2. Indicate the percentage from each of the above budgets devoted to maintenance of instructional equipment (round to whole percents):

N=24

Change, 1984-87:
Increased:* 9 (37%)
No change: 11 (46%)
Decreased:* 4 (17%)

*By more than 2 percentage points.

	Percent For Maintenance	
1983-84 Budget	Mean 12.9 %	Range: 0 to 40%
1984-85 Budget	Mean 15.0 %	Range: 0 to 60%
1985-86 Budget	Mean 14.9 %	Range: 0 to 65%
1986-87 Institutional Budget Plan/Campus Budget Request	Mean 16.0 %	Range: 0 to 66%

*Or this branch, if information has been requested for branches separately.

**II.1. Change, 1983-84 to 1986-87:
N=27 campuses giving figures for both years.
Increased:* 10 (37%)
No change: 4 (15%)
Decreased:* 13 (48%)

* By more than 5 percent.

**II.1. Change, 1985-86 to 1986-87:
N=26 campuses giving figures for both years.
Increased:* 10 (38%)
No change: 3 (12%)
Decreased:* 13 (50%)

* By more than 2 percent.

SUMMARY

SUNY State-Operated Campuses

3. Equipment Budget Allocation

Instructions: Below is a listing of instructional areas. Please indicate the approximate percentage of your institution's total instructional equipment acquisition budget, OVER THE PAST THREE YEARS (1983-1984 through 1985-1986 averaged) that was allocated to each of these areas, excluding the library. Enter "NA" if your institution does not offer instruction in a particular area.

TECHNICAL AND SCIENTIFIC CURRICULA

#	Max.	Code	Instruction Area*	MEAN Percent Of Equipment Budget
6	85	01	Agriculture	20.7 %
18	25	02	Biological Sciences	9.3
18	29	03	Chemistry	7.7
10	13	04	Communications	3.9
14	42	05	Computer & Info. Sciences	9.2
11	12	06	Earth Sciences	5.5
5	70	07	Engineering	24.4
6	100	08	Engineering Technologies	46.0
18	13	09	Mathematics	1.8
17	11	10	Physics	4.8
4	86	11	Medicine	61.8
1	--	12	Dental Hygiene	0
11	3	13	Medical Lab Technologies	0.6
10	6	14	Nursing	1.9
2	2	15	Occupational Therapy	1.0
4	3	16	Physical Therapy	1.8

TECHNICAL AND SCIENTIFIC CURRICULA (CONTINUED)

Code	Instruction Area*	MEAN Percent Of Equipment Budget	#	Max.
17	Radiologic Technologies	0.5	2	1
18	Speech Pathology	4.4	5	7
19	General Academic Support (exclude library)	19.5	20	62

NONTECHNICAL AND NONSCIENTIFIC CURRICULA

Code	Instruction Area*	MEAN Percent Of Equipment Budget	#	Max.
20	Architecture	0 %	1	--
21	Business/ Management	6.9	16	50
22	Education	2.9	13	8
23	Fine/Applied Arts	11.6	14	60
24	Home Economics	26.8	4	100
25	Literature/ Linguistics	0.9	15	5
26	Psychology	2.1	14	5
27	Public Affairs& Services	0.3	9	2
28	Social Sciences/ History	4.9	17	50
29	Other (specify): _____	17.4	11	100
	TOTAL	100 %		

*See definitions on following pages before completing.

SUMMARY

SUNY Community College Campuses (N=30)

II. Total Equipment Budget

1. Enter the amount of money available at this institution* for the acquisition and maintenance of instructional equipment for all departments excluding the library (but including the learning center). Include funds from all sources (tuition and fees, normal public funding, private industry, Federal and State grants, etc.). Round to the nearest hundred dollars.

1983-84 Budget	$	See below**
1984-85 Budget	$	
1985-86 Budget	$ Mean $93/FTES	
1986-87 Institutional Budget Plan/Campus Budget Request	$	

2. Indicate the percentage from each of the above budgets devoted to maintenance of instructional equipment (round to whole percents):

N=28

Change, 1984-87:
Increased:* 14 (50%)
No change: 5 (18%)
Decreased:* 9 (32%)

*By more than 2 percentage points.

	Percent For Maintenance	
1983-84 Budget	Mean 30.0 %	Range = 1 to 100%
1984-85 Budget	Mean 38.4 %	
1985-86 Budget	Mean 33.2 %	
1986-87 Institutional Budget Plan/Campus Budget Request	Mean 31.7 %	

*Or this branch, if information has been requested for branches separately.

**II.1. Change, 1983-84 to 1986-87:
N=30
Increased:* 18 (60%)
No change: 1 (3%)
Decreased:* 11 (37%)

*By more than 5 percent.

**II.1. Change, 1985-86 to 1986-87:
N=30
Increased:* 17 (56%)
No change: 2 (7%)
Decreased:* 11 (37%)

*By more than 2 percent.

SUMMARY

SUNY Community Colleges

3. Equipment Budget Allocation

Instructions: Below is a listing of instructional areas. Please indicate the approximate percentage of your institution's total instructional equipment acquisition budget, OVER THE PAST THREE YEARS (1983-1984 through 1985-1986 averaged) that was allocated to each of these areas, excluding the library. Enter "NA" if your institution does not offer instruction in a particular area.

TECHNICAL AND SCIENTIFIC CURRICULA

#	Max.	Code	Instruction Area*	MEAN Percent Of Equipment Budget
2	--	01	Agriculture	0 %
29	25	02	Biological Sciences	4.(
28	6	03	Chemistry	2.5
17	18	04	Communications	5.3
29	90	05	Computer & Info. Sciences	19.9
12	5	06	Earth Sciences	1.3
--	--	07	Engineering	--
28	100	08	Engineering Technologies	21.5
30	11	09	Mathematics	1.3
28	10	10	Physics	2.0
--	--	11	Medicine	--
11	9	12	Dental Hygiene	1.5
17	16	13	Medical Lab Technologies	2.6
24	10	14	Nursing	2.3
5	2	15	Occupational Therapy	0.6
5	7	16	Physical Therapy	1.8

TECHNICAL AND SCIENTIFIC CURRICULA (CONTINUED)

Code	Instruction Area*	Mean Percent Of Equipment Budget	#	Max.
17	Radiologic Technologies	0.4	5	1
18	Speech Pathology	--	--	--
19	General Academic Support (exclude library)	14.5	30	62

NONTECHNICAL AND NONSCIENTIFIC CURRICULA

Code	Instruction Area*	Mean Percent Of Equipment Budget	#	Max.
20	Architecture	0.5 %	2	1
21	Business/ Management	14.4	30	50
22	Education	0	9	--
23	Fine/Applied Arts	6.1	23	40
24	Home Economics	1.7	3	5
25	Literature/ Linguistics	0.6	27	4
26	Psychology	0.2	29	3
27	Public Affairs& Services	1.4	28	33
28	Social Sciences/ History	0.2	29	2
29	Other (specify): _____	7.6	15	26
	TOTAL	100 %		

*See definitions on following pages before completing.

SUMMARY

CUNY (N=17)

II. Total Equipment Budget

1. Enter the amount of money available at this institution* for the acquisition and maintenance of instructional equipment for all departments excluding the library (but including the learning center). Include funds from all sources (tuition and fees, normal public funding, private industry, Federal and State grants, etc.). Round to the nearest hundred dollars.

1983-84 Budget	$	See below**
1984-85 Budget	$	
1985-86 Budget (Range = $0 to $132)	$ Mean $61/FTES	
1986-87 Institutional Budget Plan/Campus Budget Request	$	

2. Indicate the percentage from each of the above budgets devoted to maintenance of instructional equipment (round to whole percents):

N=14

Change, 1984-87:
Increased:* 3 (21%)
No Change: 6 (43%)
Decreased:* 5 (36%)

*By more than 2 percentage points.

	Percent For Maintenance	
1983-84 Budget	Mean 20.5 %	Range: 0-85%
1984-85 Budget	Mean 20.0 %	Range: 0-83%
1985-86 Budget	Mean 16.7 %	Range: 0-85%
1986-87 Institutional Budget Plan/Campus Budget Request	Mean 15.4 %	Range: 0-86%

*Or this branch, if information has been requested for branches separately.

**II.1 Change, 1983-84 to 1986-87:
N=16 CUNY respondents giving figures for both years

Increased:* 13 (81%)
No change:* 0
Decreased:* 3 (19%)

*By more than 5 percent.

**II.1 Change, 1985-86 to 1986-87:
N=15 CUNY respondents giving figures for both years

Increased:* 8 (53%)
No change: 1 (7%)
Decreased:* 6 (40%)

*By more than 2 percent.

SUMMARY: CUNY

3. Equipment Budget Allocation

Instructions: Below is a listing of instructional areas. Please indicate the approximate percentage of your institution's total instructional equipment acquisition budget, OVER THE PAST THREE YEARS (1983-1984 through 1985-1986 averaged) that was allocated to each of these areas, excluding the library. Enter "NA" if your institution does not offer instruction in a particular area.

TECHNICAL AND SCIENTIFIC CURRICULA

#	Max.	Code	Instruction Area*	MEAN Percent Of Equipment Budget
1	--	01	Agriculture	0 %
14	30	02	Biological Sciences	8.0
14	30	03	Chemistry	7.2
7	5	04	Communications	1.0
13	52	05	Computer & Info. Sciences	27.0
7	17	06	Earth Sciences	4.9
2	53	07	Engineering	32.0
3	11	08	Engineering Technologies	7.7
14	10	09	Mathematics	2.9
13	21	10	Physics	4.9
--	--	11	Medicine	--
1	--	12	Dental Hygiene	2.0
5	7	13	Medical Lab Technologies	2.0
9	10	14	Nursing	3.3
2	1	15	Occupational Therapy	0.5
3	--	16	Physical Therapy	0

TECHNICAL AND SCIENTIFIC CURRICULA (CONTINUED)

Code	Instruction Area*	MEAN Percent Of Equipment Budget	#	Max.
17	Radiologic Technologies	4.0	1	--
18	Speech Pathology	1.0	5	4
19	General Academic Support (exclude library)	20.3	14	77

NONTECHNICAL AND NONSCIENTIFIC CURRICULA

Code	Instruction Area*	MEAN Percent Of Equipment Budget	#	Max.
20	Architecture	1.0 %	2	--
21	Business/ Management	5.9	13	30
22	Education	2.9	11	11
23	Fine/Applied Arts	2.8	12	5
24	Home Economics	0.5	4	1
25	Literature/ Linguistics	1.2	14	5
26	Psychology	1.8	14	9
27	Public Affairs& Services	0.8	8	5
28	Social Sciences/ History	1.7	14	6
29	Other (specify): _____	26.0	2	52
	TOTAL	100 %		

*See definitions on following pages before completing.

SUMMARY

CUNY Senior Colleges (N=10)

II. Total Equipment Budget

1. Enter the amount of money available at this institution* for the acquisition and maintenance of instructional equipment for all departments excluding the library (but including the learning center). Include funds from all sources (tuition and fees, normal public funding, private industry, Federal and State grants, etc.). Round to the nearest hundred dollars.

1983-84 Budget	$	See below**
1984-85 Budget	$	
1985-86 Budget	$ Mean $71/FTES	
1986-87 Institutional Budget Plan/Campus Budget Request	$	

2. Indicate the percentage from each of the above budgets devoted to maintenance of instructional equipment (round to whole percents):

N=9

Change, 1984 to 1987:
Increased:* 2 (22%)
No change: 4 (45%)
Decreased:* 3 (33%)

*By more than 2 percentage points.

	Percent For Maintenance	
1983-84 Budget	Mean 9.0 %	Range: 0 to 18%
1984-85 Budget	Mean 9.0 %	Range: 0 to 27%
1985-86 Budget	Mean 9.2 %	Range: 0 to 20%
1986-87 Institutional Budget Plan/Campus Budget Request	Mean 8.1 %	Range: 0 to 17%

*Or this branch, if information has been requested for branches separately.

**II.1. Change, 1983-84 to 1986-87:
N=10 campuses giving figures for both years.
Increased:* 9 (90%)
No change: 0
Decreased:* 1 (10%)

*By more than 5 percent.

**II.1. Change, 1985-86 to 1986-87:
N=10
Increased:* 8 (80%)
No change: 1 (10%)
Decreased:* 1 (10%)

*By more than 2 percent.

SUMMARY

CUNY Senior Colleges

3. Equipment Budget Allocation

Instructions: Below is a listing of instructional areas. Please indicate the approximate percentage of your institution's total instructional equipment acquisition budget, OVER THE PAST THREE YEARS (1983-1984 through 1985-1986 averaged) that was allocated to each of these areas, excluding the library. Enter "NA" if your institution does not offer instruction in a particular area.

TECHNICAL AND SCIENTIFIC CURRICULA

#	Max.	Code	Instruction Area*	MEAN Percent Of Equipment Budget
--	--	01	Agriculture	-- %
9	18	02	Biological Sciences	7.8
9	15	03	Chemistry	6.2
6	5	04	Communications	1.2
8	58	05	Computer & Info. Sciences	20.5
6	17	06	Earth Sciences	4.8
2	53	07	Engineering	32.0
2	11	08	Engineering Technologies	6.5
9	10	09	Mathematics	3.0
8	21	10	Physics	6.5
--	--	11	Medicine	--
--	--	12	Dental Hygiene	--
2	1	13	Medical Lab Technologies	0.5
4	1	14	Nursing	0.8
1	1	15	Occupational Therapy	1.0
1	--	16	Physical Therapy	0

TECHNICAL AND SCIENTIFIC CURRICULA (CONTINUED)

Code	Instruction Area*	MEAN Percent Of Equipment Budget	#	Max.
17	Radiologic Technologies	--	--	--
18	Speech Pathology	1.0	5	4
19	General Academic Support (exclude library)	23.9	9	77

NONTECHNICAL AND NONSCIENTIFIC CURRICULA

Code	Instruction Area*	MEAN Percent Of Equipment Budget	#	Max.
20	Architecture	1.0 %	2	1
21	Business/ Management	2.1	8	10
22	Education	3.4	8	11
23	Fine/Applied Arts	3.5	8	5
24	Home Economics	0.7	3	1
25	Literature/ Linguistics	1.6	9	5
26	Psychology	2.8	9	9
27	Public Affairs& Services	1.5	4	5
28	Social Sciences/ History	2.1	9	6
29	Other (specify): _____	26.0	2	52
	TOTAL	100 %		

*See definitions on following pages before completing.

SUMMARY

CUNY Community Colleges (N=7)

II. Total Equipment Budget

1. Enter the amount of money available at this institution* for the acquisition and maintenance of instructional equipment for all departments excluding the library (but including the learning center). Include funds from all sources (tuition and fees, normal public funding, private industry, Federal and State grants, etc.). Round to the nearest hundred dollars.

1983-84 Budget	$
1984-85 Budget	$
1985-86 Budget	$ Mean $ 46/FTES
1986-87 Institutional Budget Plan/Campus Budget Request	$

See below**

2. Indicate the percentage from each of the above budgets devoted to maintenance of instructional equipment (round to whole percents):

N=5
Change, 1984 to 1987:
Increased:* 1 (20%)
No change: 2 (40%)
Decreased:* 2 (40%)

*By more than 2 percentage points.

	Percent For Maintenance
1983-84 Budget	Mean 37.7 %
1984-85 Budget	Mean 36.5 %
1985-86 Budget	Mean 28.0 %
1986-87 Institutional Budget Plan/Campus Budget Request	Mean 28.4 %

Range: 0 to 83-86

*Or this branch, if information has been requested for branches separately.

**II.1. Change, 1983-84 to 1986-87:
N=5 respondents giving figures for both years.
Increased:* 3 (60%)
No change: 0
Decreased:* 2 (40%)

*By more than 5 percent.

**II.1. Change, 1985-86 to 1986-87:
N=4 respondents giving figures for both years.
Increased:* 0
No change: 0
Decreased:* 4 (100%)

*By more than 2 percent.

SUMMARY
CUNY Community Colleges

3. Equipment Budget Allocation

Instructions: Below is a listing of instructional areas. Please indicate the approximate percentage of your institution's total instructional equipment acquisition budget, OVER THE PAST THREE YEARS (1983-1984 through 1985-1986 averaged) that was allocated to each of these areas, excluding the library. Enter "NA" if your institution does not offer instruction in a particular area.

TECHNICAL AND SCIENTIFIC CURRICULA

#	Max.	Code	Instruction Area*	Mean Percent Of Equipment Budget
1	--	01	Agriculture	0 %
5	30	02	Biological Sciences	8.4
5	30	03	Chemistry	9.0
1	--	04	Communications	0
5	62	05	Computer & Info. Sciences	37.4
1	5	06	Earth Sciences	5.0
--	--	07	Engineering	--
1	10	08	Engineering Technologies	10.0
5	10	09	Mathematics	2.6
5	5	10	Physics	2.2
--	--	11	Medicine	--
1	2	12	Dental Hygiene	2.0
3	7	13	Medical Lab Technologies	3.0
5	10	14	Nursing	5.4
1	--	15	Occupational Therapy	0
2	--	16	Physical Therapy	0

TECHNICAL AND SCIENTIFIC CURRICULA (CONTINUED)

Code	Instruction Area*	Mean Percent Of Equipment Budget	#	Max.
17	Radiologic Technologies	4.0	1	4
18	Speech Pathology	--	--	--
19	General Academic Support (exclude library)	13.8	5	34

NONTECHNICAL AND NONSCIENTIFIC CURRICULA

Code	Instruction Area*	Mean Percent Of Equipment Budget		
20	Architecture	-- %	--	--
21	Business/ Management	11.8	5	30
22	Education	1.7	3	5
23	Fine/Applied Arts	1.3	4	5
24	Home Economics	0	1	--
25	Literature/ Linguistics	0.6	5	3
26	Psychology	0	5	--
27	Public Affairs& Services	0	4	--
28	Social Sciences/ History	1.0	5	5
29	Other (specify): _____	--	--	--
	TOTAL	100 %		

*See definitions on following pages before completing.

SUMMARY

INDEPENDENT (N=65)

II. Total Equipment Budget

1. Enter the amount of money available at this institution* for the acquisition and maintenance of instructional equipment for all departments excluding the library (but including the learning center). Include funds from all sources (tuition and fees, normal public funding, private industry, Federal and State grants, etc.). Round to the nearest hundred dollars.

1983-84 Budget	$
1984-85 Budget	$
1985-86 Budget (Range = $15 to $2,463)	$ Mean $157/FTES
1986-87 Institutional Budget Plan/Campus Budget Request	$

} See below**

2. Indicate the percentage from each of the above budgets devoted to maintenance of instructional equipment (round to whole percents):

	Percent For Maintenance	
1983-84 Budget	Mean 13.6 %	Range: 0-59%
1984-85 Budget	Mean 16.0 %	Range: 0-77%
1985-86 Budget	Mean 17.0 %	Range: 0-67%
1986-87 Institutional Budget Plan/Campus Budget Request	Mean 21.3 %	Range: 1-95%

N=42
Change, 1984-87:
Increased:* 22 (52%)
No change: 16 (38%)
Decreased:* 4 (10%)

*By more than 2 percentage points.

*Or this branch, if information has been requested for branches separately.

**II.1. Change, 1983-84 to 1986-87:
N=51 campuses giving figures for both years
Increased:* 31 (61%)
No change: 4 (8%)
Decreased:* 16 (31%)

*By more than 5 percent.

**II.1. Change, 1985-86 to 1986-87:
N=57 institutions giving figures for both years
Increased:* 30 (52%)
No change: 2 (4%)
Decreased:* 25 (44%)

*By more than 2 percent.

SUMMARY
INDEPENDENT

3. Equipment Budget Allocation

Instructions: Below is a listing of instructional areas. Please indicate the approximate percentage of your institution's total instructional equipment acquisition budget, OVER THE PAST THREE YEARS (1983-1984 through 1985-1986 averaged) that was allocated to each of these areas, excluding the library. Enter "NA" if your institution does not offer instruction in a particular area.

TECHNICAL AND SCIENTIFIC CURRICULA

#	Max.	Code	Instruction Area*	MEAN Percent Of Equipment Budget
1	--	01	Agriculture	40.0 %
47	47	02	Biological Sciences	10.3
46	40	03	Chemistry	6.6
38	24	04	Communications	4.9
43	82	05	Computer & Info. Sciences	20.6
20	5	06	Earth Sciences	1.3
12	64	07	Engineering	28.3
7	100	08	Engineering Technologies	27.7
48	9	09	Mathematics	0.9
42	18	10	Physics	2.9
4	98	11	Medicine	33.5
1	--	12	Dental Hygiene	0
16	7	13	Medical Lab Technologies	1.9
20	100	14	Nursing	16.6
5	3	15	Occupational Therapy	1.0
6	10	16	Physical Therapy	4.2

TECHNICAL AND SCIENTIFIC CURRICULA (CONTINUED)

Code	Instruction Area*	MEAN Percent Of Equipment Budget	#	Max.
17	Radiologic Technologies	7.2	6	28
18	Speech Pathology	1.4	8	7
19	General Academic Support (exclude library)	29.7	58	100

NONTECHNICAL AND NONSCIENTIFIC CURRICULA

Code	Instruction Area*	MEAN Percent Of Equipment Budget		
20	Architecture	0.6 %	7	2
21	Business/ Management	5.7	48	62
22	Education	2.7	44	30
23	Fine/Applied Arts	5.6	40	42
24	Home Economics	1.0	2	--
25	Literature/ Linguistics	1.1	50	8
26	Psychology	2.2	53	20
27	Public Affairs& Services	0.8	33	8
28	Social Sciences/ History	1.1	53	10
29	Other (specify): _____	7.4	19	24
	TOTAL	100 %		

*See definitions on following pages before completing.

APPENDIX D

Items Listed as Samples of Equipment Requested, but Not Included in Actual 1985-86 Budget Top Ten Fields

1. **Engineering:** 15 campuses listed a total of 102 items, the largest number of individual items in any field. The mean estimated item cost of $127,834 was also the highest among the fields. Of the 102 items, 31 were computers or directly computer-related, and five were robotics items. Sample items:

Item	*Estimated Cost*	*Level of Instruction*
Argon Laser	$ 6,000	Bach. & Grad.
VLSI Lab	500,000	Bach. & Grad.
Torsion Tester	110,000	Bach. & Grad.
Engring. Computer Plotter	15,000	Bachelor
Manufacturing Process Lab	23,000	NA
Molecular Beam Epitaxy Machine	1,000,000	Grad.
Clean Room	400,000	Bach. & Grad.
Vibrations Lab	75,000	Bach. & Grad.
5 Servo/Robotics Setups	25,000	Bach.
Scanning Electron Microscope	500,000	Grad.
Thermal Power Supply	15,000	Bach.
Dual Channel Spectrum Analyze	30,000	Bach.
Concrete Tester	15,500	Bach.
Instrumentation-Solid State Lab	45,000	Bach. & Grad
Hot Wire Anemometer	9,000	Bachelor

2. **Computer and Information Science:** 35 campuses listed 90 items. The mean estimated item cost was $47,550.

Item	*Estimated Cost*	*Level of Instruction*
Supermicrócomputer	$ 20,000	Bach. & Grad.
UNIX Micro System	9,000	Bach & Grad.
Minicomputer	300,000	Bachelor
Graphics Workstations	35,000	Bach. & Grad.
2 Local Network Systems	10,000	2-Year
Mainframe Computer	210,000	2-Year
Software	60,000	2-Year
C Compiler	6,400	2-Year
Analog/Digital Lab	94,500	Bach. & Grad.
Logic Programming Lab	435,000	Bach. & Grad.
2 Network Controllers	9,000	Bachelor
Upgrade Freshman Lab w/Micros	129,000	Bachelor
Computer Stands & Chairs	5,000	2-Year
Laser Printers	6,000	2-Year
Graphics Boards	13,000	Bachelor

3. **General Academic Support:** This category was defined to include such instructional resources (excluding the library) as language laboratories, computers and computer-aided equipment to support instruction in more than one discipline, and audiovisual equipment. Thirty-two campuses listed 80 items in this category. The mean estimated item cost was $90,375.

Item	*Estimated Cost*	*Level of Instruction*
Personal Computers	$ 80,000	Bachelor
SPSS Teaching Lab	17,000	Bachelor
Teacher Ed. Micro Lab	50,000	Bachelor
2 Video Projectors	20,500	Bach. & Grad.
Scanning Electron Microscopes	60,000	Bach. & Grad.
Upgrade Computer System	100,000	Bach. & Grad.
Microfiche Reader	14,000	2-Year
Networking	76,000	Bach. & Grad.
Independent Study Center	65,000	2-Year
Multiprocessor Art & CAD/CAM	85,000	2-Year
Computerizing Labs, All Fields	60,000	2-Year
Recording Studio	100,000	2-Year
5 Microcomputer Learning Labs	500,000	2-Year
PC's for Remedial Math	100,000	2-Year
Language Lab	340,000	Bach. & Grad.

4. **Communications:** Ten campuses listed 33 items with a mean estimated item cost of $60,271.

Item	*Estimated Cost*	*Level of Instruction*
Editing Recorders	$ 30,000	Bachelor
Videopatch Panel	5,100	Bachelor
Character Generator	7,000	Bachelor
TV Studios Upgrade	65,000	Bachelor
Satellite Receiving Dish	5,313	Bachelor
3 Studio Cameras	45,000	Bachelor
Time-Based Correctors	15,000	2-Year
Video Animator	24,000	2-Year
Video Tape Recorders	28,000	Bach. & Grad.
Journalism Lab	200,000	Bach. & Grad.
Computer Graphics Lab	230,000	Bach. & Grad.
Classrm. Videoplayers & VHS	56,772	2-Year

5. **Engineering Technologies:** 26 campuses listed 93 items. The mean estimated item cost was $27,681.

Item	*Estimated Cost*	*Level of Instruction*
Vertical Milling Machine	$ 18,000	2-Year
Test System for Electronics	90,000	2-Year
16-Bit Trainers	12,000	2-Year
CAD/CAM Equipment	70,000	2-Year
Fluid Power Bench	15,600	2-Year
PDP Computer System	35,000	2-Year
Computer-Operated Lathe	12,000	2-Year
Laser Optics Equipment	150,000	2-Year
Digital Strain Recorder	5,000	2-Year
Robotics Equipment	12,500	2-Year
Microprocessors	5,000	2-Year
NC/CNC Programmers	54,000	2-Year

Computer-Assisted Drafter	100,000	2-Year
10 Signal Generators	20,000	2-Yr. & Bach.
Renovation of Steam Turbine	5,000	Bachelor

6. **Chemistry:** 20 campuses listed 48 items with a mean estimated cost of $57,439.

Item	*Estimated Cost*	*Level of Instruction*
Microcomputers	$ 13,500	Bach. & Grad.
Differential Scanning Calorimeter	27,200	Bach. & Grad
2 Low-Field NMR Spectrometers	40,000	Bachelor
Infrared Spectrophotometer	39,000	Bachelor
Gel Permeation Chromatograph	45,000	Graduate
Ultraviolet Spectrophotometer	25,000	Bach. & Grad.
NMR Spectrometer	75,000	Bachelor
Gas Chromatograph	5,000	Bach. & Grad.
5 Electronic Balances	10,000	Bachelor
NMR	100,000	Bachelor
Renovation of Chemical Storage Facility	60,000	Bachelor
2 Recording Potentiometers	3,500	Bachelor
Electron Microscope	150,000	Bach. & Grad.
NMR	1,000,000	Bach. & Grad.
Spectroscopy Equipment	400,000	Graduate

7. **Medicine:** Four campuses listed a total of 54 items—the largest number of items per campus of any field. The mean estimated item cost was $46,856.

Item	*Estimated Cost*	*Level of Instruction*
Ultracentrifuge	$ 26,000	Graduate
Fluorescence Microscope	25,000	Graduate
Tissue Sectioner	5,700	Graduate
Spectrophotometer	6,000	Graduate
Polytron	15,000	Graduate
Bio-Hazard Safety Cabinet	10,000	Graduate
Radiation Source	100,000	Graduate
Interstitial Hyperthermia System	20,000	Graduate
Cardiology Listening Device	25,000	Graduate
Gross Anatomy Morgue and Embalming Equipment	550,000	Graduate
Histology Microscopes	225,000	Graduate
X-Ray Machine	10,000	Graduate
Surgical Equipment	30,000	Graduate
PDP Data Base Computer	110,000	Graduate
Resuscitation Equipment	10,000	Graduate

8. **Physics:** Eight campuses listed 13 items with a mean estimated cost of $25,815.

Item	*Estimated Cost*	*Level of Instruction*
2 Tunable Dye Lasers	$ 9,500	Bachelor
4 300-MHz Oscilloscopes	6,000	Bachelor
Electrical Analytical Instrument	30,000	2-Year
X-Ray Apparatus	5,600	2-Year
Microcomputer Interface System	20,000	2-Year
Laser/Laser Amplifier and Optical Table	25,000	Bach. & Grad.

Wide-Bore Superconducting Magnet	50,000	Bach. & Grad.
Undergraduate Teaching Labs	50,000	Bachelor
6 Turbo Pumps	36,000	NA
2 Multichannel Analyzers	8,500	Bachelor

9. **Biological Sciences:** 30 campuses listed 71 items with a mean cost of $32,048.

Item	*Estimated Cost*	*Level of Instruction*
Walk-In Incubator	$ 42,000	Bach. & Grad.
Dissecting Microscopes	10,000	Bach. & Grad.
Scintillation Counter	15,000	Bach. & Grad.
Electron Microscope	80,000	Bachelor
Data Acquisition and Control System	6,000	Bach. & Grad.
Computer-Assisted Instruction Equipment	150,000	2-Year
Safety Cabinets	30,000	2-Year
Replace 40 Microscopes	44,000	Bachelor
Refrigerated Centrifuge	28,000	Bach. & Grad.
Microcomputer Lab	40,000	Bachelor
Cyclometer	20,000	Graduate
Fourier Transform NMR	130,000	Bachelor
Fume Hoops	4,000	Bachelor
Densitometer for Electro-Phoresis	8,500	Bachelor
Physiographs	20,000	Graduate

10. **Agriculture:** Two campuses listed 11 items with a mean estimated item cost of $40,182.

Item	*Estimated Cost*	*Level of Instruction*
Spectrophotometer	$ 132,000	Bach. & Grad.
2 Video Cameras	12,000	Bach. & Grad.
5 Microscopes	10,000	Bach. & Grad.
2 Autoclaves	63,000	Bach. & Grad.
Diesel Tractor	75,000	2-Year
Treadmill	5,000	2-Year
Ultracentrifuge	50,000	Bach. & Grad.
20 Microcomputers	50,000	Bach. & Grad.